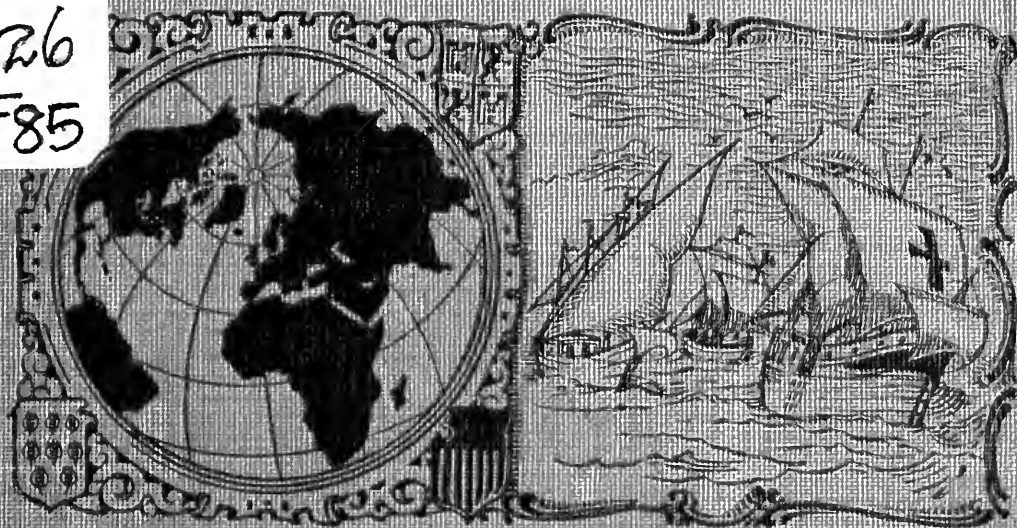


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HOME GEOGRAPHY

FRYE

GINN AND COMPANY



Class G726

Book 130

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HOME GEOGRAPHY

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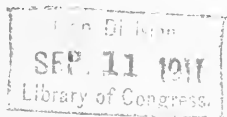
TYPE STUDIES

BY

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"GRAMMAR SCHOOL GEOGRAPHY," "LEADING FACTS
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PREFACE

Aim. This book aims to present in simple language those subjects which will best smooth the beginner's pathway to the later study of general geography. A glance at the CONTENTS on the next page will show the wide range of topics for both city and country pupils.

Plan. The lessons cover HOME GEOGRAPHY in its broad sense, and not merely *definitions* of land and water forms. The pupil should know a plain and a river, but he should know also what use is made of them. The factory and the freight steamer are as important as the volcano and the glacier.

Type Studies. These studies are based upon some of the most interesting features or WONDERS OF OUR COUNTRY. They aim to awaken an interest in the study of geography and to familiarize pupils with geographic terms. Other type studies of the GIRLS AND BOYS OF OTHER LANDS aim to intensify HOME GEOGRAPHY by interesting contrasts.

Grade. Pupils ready for a simple third reader can begin the study of this book. The text is graded with great care.

Pictures. This is one of the most richly illustrated schoolbooks ever sent out to young pupils. Child life is the central thought, as a glance at a few pages will show.

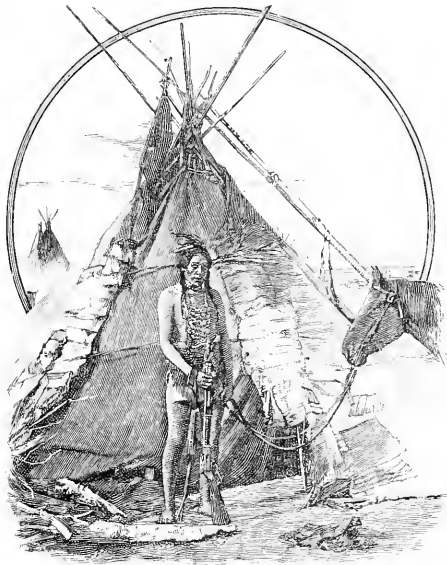
To pupils of this age, good pictures often teach more than text. The dress of the people, for example, may impress a lesson on climate, as is clearly shown by the pictures on pages 1 and 2.

Maps. The series of very simple maps at the end of the book will be of help in locating places named in the type studies. Moreover, no HOME GEOGRAPHY is complete unless it contains maps of all the continents, making it possible for pupils to locate places named from day to day. The old but simple device of printing *north, south, east and west* in the map margins is here used.

Helps. Teachers will welcome the lesson HELPS. They will aid in the study of the text and also in oral work with the pupils.

CONTENTS

HOME GEOGRAPHY		PAGE		PAGE
THE AIR	2	WHY OTHER CITIES GROW	50	
THE WATER	3	POINTS OF THE COMPASS	51	
FORMS OF WATER	4	SHORE FORMS	52	
THE SOIL	5	FACTORIES	53	
AUTUMN	6	PRINTING A BOOK	54	
WINTER	7	BINDING A BOOK	55	
SPRING	8	THE PICTURE ON THE COVER	56	
SUMMER	10	MARKET FOR GOODS	58	
KEEPING RECORDS	10	HOW BRICKS ARE MADE	58	
HOW PLANTS GROW	12	BUILDING STONE	59	
GARDENS	12	TRADE OF A SEAPORT	60	
EARLY VEGETABLES	14	KINDS OF WORK IN A CITY	62	
THE DAIRY FARM	15	WHY LAWS ARE MADE	62	
WHAT IS DONE WITH THE MILK	16	TAXES AND THEIR USES	64	
MAKING BUTTER	17			
MAKING CHEESE	18	WONDERS OF OUR COUNTRY		
HILL, VALLEY AND PLAIN	20	YELLOWSTONE PARK	65	
THE WHEAT FARM	21	MISSISSIPPI RIVER	66	
THE FLOUR MILL	23	GREAT LAKES	69	
SHEEP AND WOOL	24	NIAGARA FALLS	72	
MAKING WOOLEN CLOTH	25	THE PRAIRIES	74	
FIBERS FOR CLOTH	26	MAMMOTH CAVE AND NATURAL		
THE STORY OF COTTON	27	BRIDGE	75	
USES OF TREES	29	GRAND CANYON	76	
THE USEFUL PALMS	30	YOSEMITE AND THE BIG TREES	78	
IN A FOREST	32	UNDERGROUND WONDERS	79	
MOUNTAINS	34	SEA WONDERS	82	
VOLCANOES	36			
HOW WE TRADE	36	GIRLS AND BOYS OF OTHER LANDS		
RAILROADS	38	THE BLACK PEOPLE	84	
LIFE IN THE CITY	40	THE RED PEOPLE	88	
SEWERS OF A CITY	42	THE YELLOW PEOPLE	90	
HEALTH OF A CITY	43	CHILDREN OF THE FAR NORTH	93	
TRAVEL IN A CITY	44	HOME OF THE LAPPS	96	
SENDING A LETTER	46	CHILDREN OF THE DESERT	98	
HARBOR AND PORT	48	THE BROWN PEOPLE	101	
WHY SEAPORTS GROW	48	IN THE LOWLANDS	103	
		IN THE HIGHLANDS	105	



A red man before his tent



White boys who live in a cold land

GEOGRAPHY

THE EARTH

We live on a ball. It is very large. We call it the earth.

The land is part of the earth. The water also is part of it. The earth has air on all sides.

This book tells about the earth. It shows us many pictures.

See the boys with warm coats. They live in a cold land. They like

to slide on the snow. We shall read about the land they live in. It is far away.

The red man is an Indian. He has a gun and a pony. He shoots also with a bow.

This book tells about the people of many lands. It tells what they do. It shows their homes.

Geography is a story about the earth and its people.

HOME GEOGRAPHY

1. The Air

Can you feel the air? Swing your hand in it.

Drop a small piece of paper. Why does it flutter as it falls?

We live and move in air. When we walk, we move the air as a boat moves water.

We must have air to breathe. A bit of food in the windpipe chokes us. It shuts out the air.

A person chokes under water if he cannot rise to the air. We call this drowning.

Bugs need air. They find it even in the ground. Plants also must have air.

Clouds float in the air. They show us which way the wind blows. Smoke and dust also show us how the wind blows.

The wind is moving air. It is often very



These little people live in a land where warm winds blow and warm rain falls



These people live where cold winds blow and snow falls

strong in storms. It blows down trees and houses.

Air at rest is calm.

The wind brings clouds, which often turn to rain. The wind may come from cold or from warm places. It gives us cold days or warm days.

We do not know how high the air is above us, but we know it is very high. Clouds show us that.

Far up in the sky there is only a little air and it is very cold.

It is hard to breathe on high mountains. There is not enough air.

The air has many other uses. It helps birds to fly. It moves ships. It turns windmills. It makes waves on water.

Airships sail far up in the cool air.

Helps : — How do you know there is air around us ?

When does food choke us ? Why ?
What is drowning ? Why do not bugs choke in the ground ?

How can you tell which way the wind blows, far up in the sky ? How do winds help to cause rain ? How else may they affect the days ?

What is wind ?
What is a calm ?

How do we know that the air is very high ? How do we know that far up there is not much air ?

Name all the uses of air you can think of.

2. The Water

Water has many uses. We could not live without it. Part of our blood is water.

Water helps us to keep things clean. We bathe in it and wash things in it.

Fish breathe air, but not as we do. There is air in water, but not enough for us. Fish have gills to take air from water. They die if their gills are dry.

Listen, boys. You know that it hurts to stop the breath even for a short time. When you take a

fish out of the water, its gills begin to dry. The poor little thing begins to choke. It cannot breathe. For a long time it gasps and suffers. At last it dies.

Never catch a fish except to eat.

If you catch one, kill it at once. Hit it a hard blow on the top of the head. Do not let it gasp and choke.

Some water sinks into the ground. It runs down to the roots and seeds. Do you know what work it does ?

If plants cannot get water, they dry up and die. Water carries food to the roots. It goes into the roots as sap.

The sap runs up to the buds. It swells and opens them. Some are leaves. Others are blossoms.

Helps : — What are the uses of water in the home ?

Where are the gills of a fish ? Find out all you can about the way fish breathe. Why can we not breathe under water ?

Of what use is water to plants ?



Waiting for the fishing boat to come in

3. Forms of Water

We have all seen the little cloud from a hot kettle. The cloud is steam or vapor. So are the large clouds up in the sky. Vapor rises from water. It is "water dust."

Have you seen fog? It is a cloud near the earth. Most of the clouds are high in the air.



A brook is a small stream flowing over the land

When clouds are cold enough, they turn to rain. It falls in drops. Rain is fresh water.

Most of the rain on the land forms brooks and rivers. A brook is a small stream flowing over the land. A river is like a brook,¹ but larger.

Water often stands in hollows.

¹ Small brooks are also called *branches*; large brooks may be called *creeks*. These names are often used in the South.

A small body of water in a hollow is a pond. A lake is like a pond, but larger. Ships sail on some lakes.

Most of the ponds are wide places in brooks. Most lakes are wide places in rivers.

Many rivers flow to the ocean. This is a great body of salt water.

It covers about three fourths of the earth. We also call it the sea.

We see water in many forms. We see it in drops of dew on cool grass. We also see it frozen in the form of ice, hail, frost or snow.

Water has a great many uses. It floats ships. It turns wheels for mills. In the form of ice, or frozen water, we skate on it. As snow, we run sleds over it.

Can you think of any other uses of water?

Helps:—Where do clouds come from? What are they? What is fog?

What is rain? When does it form? Where does it go? What part of it do plants get?

What is a brook? — a river? — a lake? Where do many ponds and lakes form?

To what body of water do many rivers flow? What is the sea or ocean? How large is it?

Name some of the forms of frozen water. What are some of the uses of water?

Name some of the uses of ice;—of snow.

4. The Soil

We know that wood rots or decays. Rocks also decay, but not so fast. They crumble to sand and dust.

The wind blows dust and sand about. Rain washes them here and there. Swift brooks push them along. In many ways they are broken finer and finer.

Frost cracks rocks. This helps them to decay. It lets in the air and rain. Roots pry off pieces.

Fine rock dust is soil. Plants grow in it. Often they die and decay in it. Bugs and worms dig in it and die. In this way rich soil is formed. It is made of rock dust, with the things that die in it.

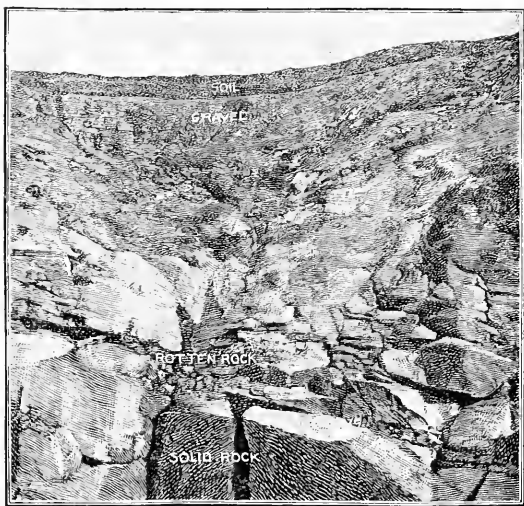
Poor soil has but little plant food. Soil that has much plant food is rich or fertile.

All rocks are not alike. They cannot form the same kind of

soil. The rock dust may be sand or clay.

Some plants grow best in sandy soil. Some like clay soil. Most plants grow best in soil that lets the rain creep in.

When plants die they give back food to the soil. They decay and mix with the soil. This makes



The top rock decays to form soil

dark loam. It is rich soil for most plants.

Helps:—Break up a pebble with a hammer. Look closely at the rock dust. What crumbles rocks?

What is soil? What is poor soil? What is rich soil? What helps to make soil fertile?

Why is not all soil alike? Name two kinds of soil. What is loam?

5. Autumn

Come out to our farm. It is in the country.

The hot days are past. The cool days are here. It is autumn. We

people come from the city to see them.

The tall grass was cut long ago. We helped put the hay in the barn. The fields are brown with stubble.

Now the men plow some of the fields. They sow seeds or grains of wheat. It will spring up before the snow falls. Then it will lie under the snow blanket in winter. When the snow melts next spring the wheat will grow quickly.

Now off we run to the orchard. Up the trees we climb. Fill your pockets with rosy apples. Let us run to the barn and hide them in the hay.

It is fun to play hide and seek in the big barns. We often go there on rainy days. How good the apples taste when we dig them out of the hay!

At the first sign of freezing we are off to the woods. Jack Frost has been at work. The burs of the nuts are burst open. Climb up and shake the branches. Hear the nuts rattle down like hail.

Watch the pretty squirrels. Do you know why they are here? Oh, yes, we will leave some of the nuts



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We help put the hay in the barn and in it we hide rosy apples

call it also the *fall of the year*. Can you think why?

Look at the oaks and maples. What bright colors! The leaves are turning red and yellow. Many

for them. They too must get ready for the long cold winter.

Helps : — When are the hottest days ? When does autumn come ? What colors have you seen in leaves ?

Why is grass cut for hay ? When is it cut ? Find out what stubble is. Tell about winter wheat. Find out what apples

keep best in winter. What is an orchard ?

Do you know how to play at hide and seek ?

Who is Jack Frost ? What does he do ? Do you know what squirrels feed on in winter ? What game do you play in autumn ?

mitten. In the morning we may skate on the pond or slide down the long hill.

Morning comes. The merry jingle of sleigh bells wakes us. Snow is falling and the fields are white.

The snow will keep the cold air



Get out the sleds. Look up the warm mittens. Now we can slide down the long hills and skate on the ponds

6. Winter

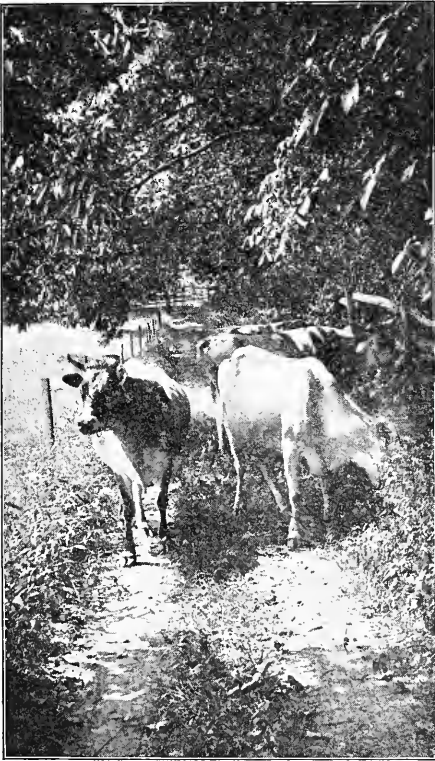
Now comes winter, but we are ready for it. Peek into the cellar. See the beets, turnips, apples and other good things to eat. The firewood is cut. The barns are filled with hay.

Now the sky is gray and the air is cold. Get out the sleds. Sharpen the skates. Look up the warm

from the winter wheat and the grass roots. Many flowers will sleep under the snow. In the spring they will shoot up again.

To-day we can make a snow man and a snow fort. But first we must shovel paths to the house and barns. We must also break the ice where the horses and cows come to drink.

Look at the woods. The tops of the trees are bending low with snow. What can the birds and squirrels find now to eat?



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**Every morning we drive the cows down
the long shady lane**

The birds sing for us. They also kill bugs that feed on grain and fruit. When the snow falls many little birds go hungry. How glad they are to get the crumbs we throw out for them!

Helps :— When does winter come ? Where does snow come from ? What is ice ?

What kind of a sled or bob have you ? Where do you coast or slide ? Can you find out what makes the sled slide down the hill ? Why does it not slide up ? Where do you skate ?

Why do we put bells on sleighs ? Do we need them on wagons ? Why do we like sleighs better than wagons when there is snow on the ground ?

Did you ever make a little room in the snow ? Was it warm or cold inside ? Find out what people make huts of snow or ice.

Of what use is snow to the grass ? What becomes of all the snow ?

Of what use are birds to us ? How can you pay them for their work and singing ?

What games do you play in winter ?

7. Spring

The cold days pass quickly. Then comes spring.

The snow and ice melt away. The fields grow green. The birds that flew away to find food come back again. Soon the fruit trees are white and pink with blossoms. The flowers in the fields wake up. The busy bees begin to hum about the blossoms.

Now we must get the gardens ready. Break up the soil and bring out the seeds. Soon the green tops

will peep forth. Then we must cut the weeds and keep the ground soft. We shall have vegetables all summer, and we can put some away for fall and winter.

The men go to plow the grain fields. They make long deep furrows. The sod turns over on the stubble.

The birds and chickens like to run in the fresh furrows. They are hunting for the worms and bugs.

Now the iron teeth of the har-

rows smooth the fields. The seeds are sown. Each tiny seed may send up a green blade. All will grow till the fields are green with corn or other grain.

Every morning we drive the cows to pasture. After school we drive them home again, down the long shady lane. Towser helps us. He likes to play with the little bossy and bark at its heels, but he never makes the cows run.

Helps: — When does spring come? Tell some things that happen in spring but not in winter, where we live.

Can you find out why some birds fly away in the fall? Try to find out where they go and why they come back.

Name some fruit trees you have seen growing. Which kind of fruit do you like best? When does it ripen?



In the apple orchard where the birds build nests. Try to find out why the bands are on the trunks of the trees

Try to find out why trees send out blossoms. Does the whole of every blossom fall? Where does the fruit grow? Try to find out how bees help blossoms.

What vegetables have you seen growing? Why must weeds be kept out?

Find out what good it does to plow the ground. Where do seeds come from? What is hay? What is a pasture?

How often are cows milked? Name some of the uses of milk.

What games do you play in the spring?

8. Summer

Now the hot days are here. School is over. We can run in the fields and woods. We can also go in swimming.

Do not think that we play all the time. The pigs and chickens

We like the summer, even if it is hot. The pears and peaches grow soft and sweet. The juicy melons ripen. The days are long and the nights are short.

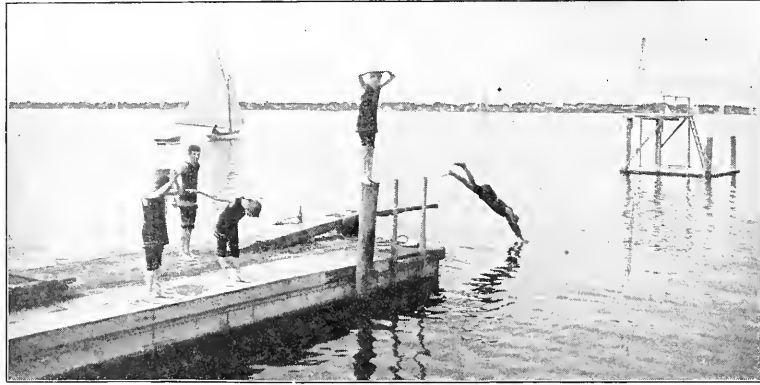
As the days grow cooler we go back to school. Another school

year opens. We are to learn many things this year from all our new books.

Helps : —

What seasons come before and after summer?

When is school over



Now the hot days are here. We can dive from the post or the springboard and swim out to the raft

must be fed. The weeds must be kept out of the gardens.

We help do the chores and we gather the vegetables for the kitchen.

But we are happy in our work. It keeps us out in the pure air. The birds are singing. The bees are buzzing. Squirrels scamper about. Why should we not be happy?

We like to learn all we can about the work. Some day when we grow up we may have farms of our own.

for the year? What kinds of work do country boys learn to do? Name some games that are played in summer. Which season do you like best?

9. Keeping Records

Path of the sun. Do you know about what time the sun rose this morning? About what time will it set to-day?

Once a month try to see where the sun rises or sets. Try to look at it from the same place each time and find out if it always rises or sets in the same place.

Find out in what months the sun rises exactly in the east and sets in the west. Find out when the sun rises and sets farthest south; also farthest north.

Shadow of the sun. Set up a pole in the school yard and look at its shadow at noon

at least once a week. Find out in what part of the year the shadow is shortest at noon, and when it is longest.

Is there a south window in a hall or room that you can use at noon once a week? If so, mark on the floor at noon the edge of the shadow of the window sill.

Do this once a week all the school year. The shadow will show you much about the sun's position.

Length of day. Find out when the days are longest and when shortest. Where does the sun rise and set when we have the longest daylight?

Try to find out how long the daylight lasts when the sun rises exactly in the east.

Does the sun cast long or short shadows at noon of the long days? Are the shadows long or short at noon in summer?

Seasons. In what season does the school year begin? In what season does it end?

In which season does the sun rise farthest north? In which season does it cast the shortest shadow at noon?

In which season is the sun lowest in the sky at noon?

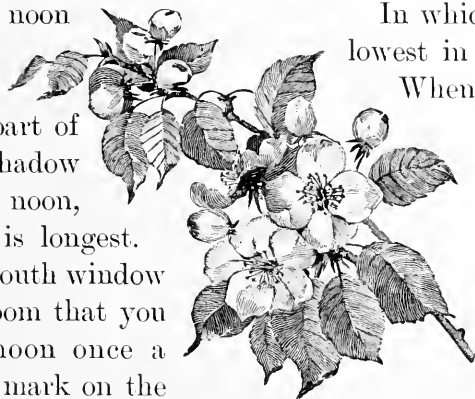
When is it highest? Can you find out what season begins when the sun sets in the west while it is on the way south? Also what season begins when the sun sets in the west while it is on the way north?

Between what seasons is winter?

Weather. Keep a record of the weather every school day. In the afternoon write whether the day has been *hot, warm, cool* or *cold*; *clear, cloudy, rainy* or *snowy*; *calm* or *windy*. Note also where the wind blows from. Be sure to write the date.

This record will show you how to keep yours:

Sept. 1 . . warm . . rain . . southeast wind
Sept. 2 . . cool . . . clear . . west wind
Sept. 3 . . cool . . . clear . . northwest wind

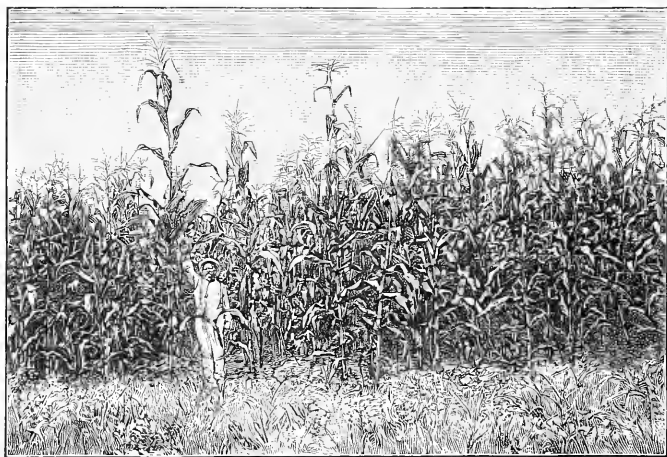


Apple blossoms

10. How Plants Grow

Have you seen the eyes on a potato? If not, look for them. Do they not look like real little eyes?

Cut off a thick piece of potato. Be sure there is a good eye on it.



Where tall corn grows in deep, rich soil

Put it in damp ground and a plant will grow. Sprouts push up to the light and air. Others grow into the ground and form roots.

The top sends out leaves and blossoms. But the part we eat grows on the roots.

Dig down under the plant. Here are several large potatoes. They pay us well for the work and care.

So we may plant a kernel of corn. A tall stalk will grow and bear long ears. We may plant a

bean and get from it long pods full of beans. The seeds from one melon will raise quite a garden of melons.

Where do plants get food to make all these things grow? It comes from the soil, the water and the air. The sun also helps plants to grow.

Helps:— Name some things that grow in gardens.

Can you think why a stone cellar is warmer in winter than a shed?

You can plant a piece of potato at home. It will teach you a great deal. What does this les-

son say about the potato?

Name some of the uses of corn. When you have a chance look at an ear of corn. It is very pretty.

What do plants feed on? Where do the plants get food?

11. Gardens

“Sweet corn! Green peas! String beans! Vegetables!” This is a cry we often hear in the cities. Men and boys are selling truck from gardens.

People in cities have very little room for gardens. Most of the

There are tools, milk pails, shoes, clothes, flour, salt, sugar and toys.



Vegetables,
fruits and honey

gardens are in the country. But it is best to have the gardens near a city. Can you think why?

Name all the things you can that grow in gardens.

Men often gather the corn, peas and other good things late in the day. They load them on wagons. Then they start in the night for the city, so as to reach the markets early. The garden stuff arrives fresh and firm.

The wagons do not go back empty. They carry many things that do not grow in our gardens.

Helps: — Why are there few gardens in cities? What kinds of vegetables do you like? What is a market garden?



Boys hauling seaweed. They put it in the gardens. It rots and makes the soil rich

Tell how to get garden stuff fresh to market. Garden stuff is "truck." What may wagons carry to the farms?

12. Early Vegetables

How glad we are when spring comes! We like to see the flowers bloom, and we like the fruits and vegetables.

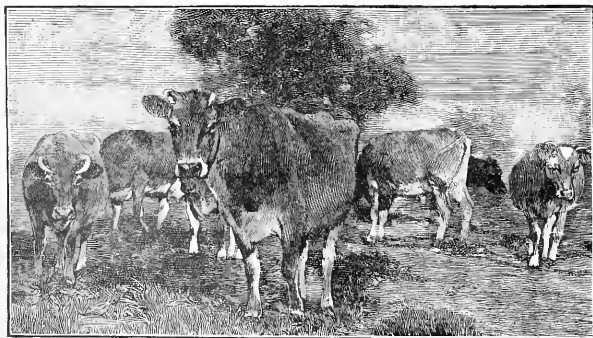
At first a few come to market. Many people wish to buy them. This makes the price high.

Early gardens pay well. This is how men start them. Early in the spring the ground is cold. Seeds will not start well in it, so the soil and seeds are put in boxes with glass covers. These are set in warm places in the sunshine.

The glass lets the sunshine in and helps to keep the heat in.

These boxes are hotbeds. They keep the soil warm. Thus the seeds get an early start in the spring.

You have seen a mousetrap. Hotbeds are heat traps. The sunshine is caught in them.



Herd of fine dairy cattle. They give rich milk

In the spring the soil of the gardens is broken up. At last there is no fear of frost. Then the tiny



An Arab and his camel. The camel gives milk to people living in a great desert

plants of the hotbeds are set in the gardens. They keep on growing, and thus we get early vegetables.

Seeds are also sown in the gardens for the later vegetables.

Helps : — Why is it hard to get fresh vegetables in the winter? Why must the price be high?

Why can men get a good price for early garden stuff? Why do they not sow seeds early in gardens?

Describe a hotbed. Why may we call it a trap? On which side of a barn or hill would you place hotbeds?

How do hotbeds help us to get early garden stuff? Why do we not need to use hotbeds to raise late vegetables?

13. The Dairy Farm

A farm is larger than a garden. Some farms are many miles long and wide. Most farms are not so large.

Some farms raise only corn or wheat. Some raise cotton. To-day we will visit a milk or dairy farm.

The large field is a pasture. Grass grows all over it. Here the cows feed back and forth.

Part of the pasture is low. In it runs a cool brook.

The cows come here to drink. They need clean water just as much as we do. And they like to drink it.

On hot days the cows like to stand in the pond and chew their cuds. The water feels cool, and it helps to keep the flies off their legs.

Part of the pasture runs up among the hills. In places there are groups of trees. Here the cows rest in the shade when the sun is very hot.



The yak gives milk to people in parts of Asia

Over the fence is the hayfield. A long winter is coming and the cows must then be fed in the barn. The clover and tall grass will be cut to make hay.

The farm boy never makes the cows run. It might hurt them and make blood come in the milk.

Helps: — What does the lesson say about the size of farms?

What other name is given to milk farms? Tell all you can about the pasture. Why do we not wish the cows to drink dirty water?

Find out all you can about the cuds the cows chew.

Find out why hay must be dried before it is put in the barn.



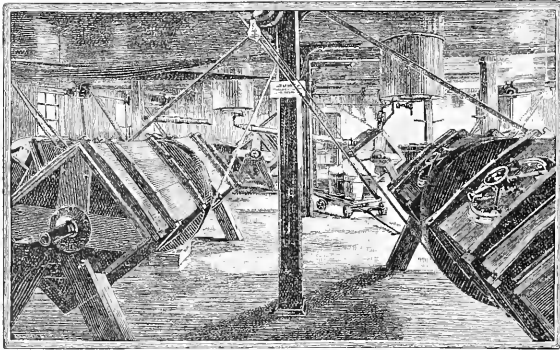
Going after milk

14. What is done with the Milk

Now the clean milk cans are set out. The men take pails and begin to milk.

The cans of warm milk are set in a long box of water to cool. This helps to keep the milk from souring.

When the night is warm, the cows are left in the big barnyard.



Round and round go the churns

Here they stay till the morning milking is over. Then they go back to the pasture.

This farm sends its milk to a city. It goes on a swift morning train. Many wagons meet the train. They take the cans and hurry away to leave the milk at homes, at hotels and other places.

Some farms send milk in glass bottles to cities. The bottles look cleaner than cans.

Milk cans and pails must be kept very clean. One of the men tells us how he cleans them. He rinses them with cold water. Then he washes them with washing powder in warm water.

Next he rinses them with hot water. Then he lets hot steam blow into each can for about a minute. At last he puts them, bottom up, on poles or wooden pins to dry.

Do you know why this man washes the cans with so much care? He loves his own boys and girls and he knows that dirty milk may kill many boys and girls in the city. He knows also that weak little babies must drink the milk.

Now we see why cows and milk need care and must be kept clean.

Helps : — Can you name some of the kinds of meat we get from cattle? — from hogs? — from sheep? What is leather?

Why is milk strained? How often are cows milked? Why are cans of new milk often put in cool water?

How is the milk sent from the farm to the city homes? How ought cans and pails to be cleaned? Why must they be cleaned with such care?

15. Making Butter

Many farms sell their milk to be made into butter or cheese. As butter is made of cream, the place where it is made is called a *creamery*. Let us look into one.

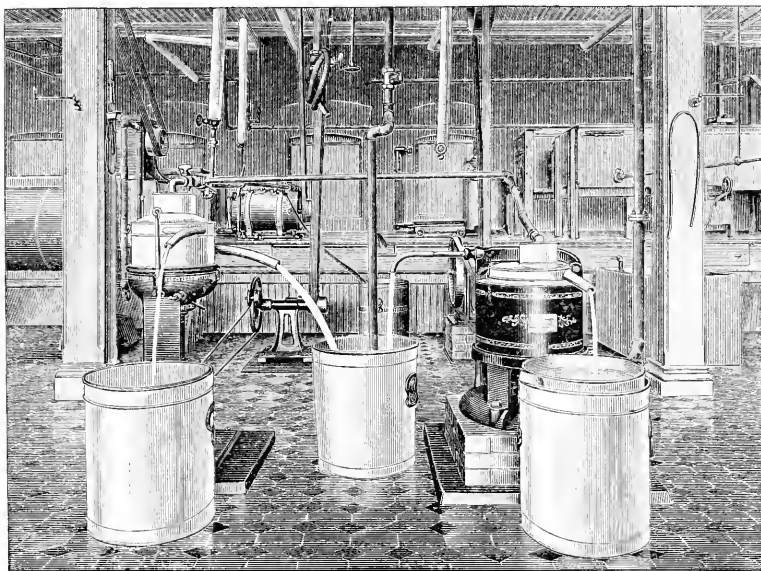
Cream is lighter than the rest of the milk and rises to the top. We can skim off the cream, put it in a churn, shake it a while and take out two things: one is the butter and the other is the buttermilk.

The same work is done in a creamery, but in another way. The milk is put in machines that turn swiftly. They take the cream from the heavy part of the milk. The heavy part is skim milk.

The cream stands for some time. Then it is put into great churns. They turn and turn for half an hour or more. Then a

man lets the buttermilk run out. The butter is left.

Now the man takes a paddle and works the butter. That is, he rolls it over, presses it, washes it with water, presses it again and tries to get out all the buttermilk.



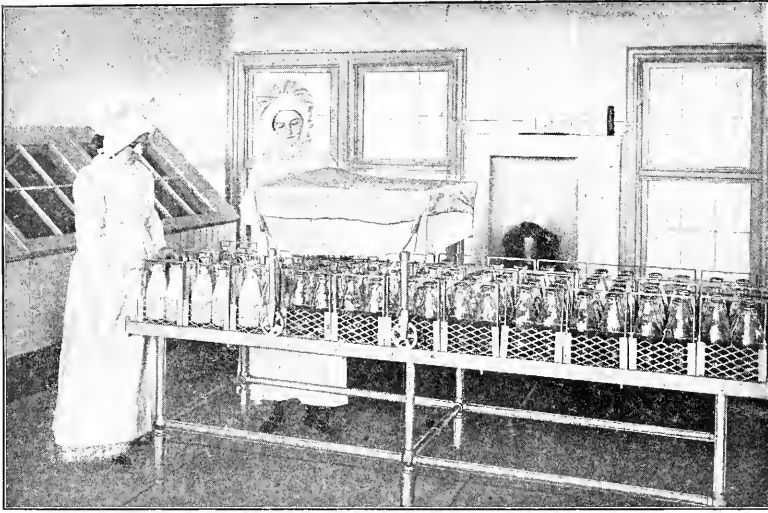
These machines separate cream and skim milk

He may also mix a little salt with it or he may leave it fresh.

The butter may now be put in boxes or tubs for market. It may be cut in squares or sent in rolls.

Helps: — What may be made from milk? What is a creamery?

Why does cream rise to the top of milk? What is buttermilk? What is skim milk? Tell how butter is made.



Bottling milk for the city

they may be put in a cold room. Then the milk does not sour so quickly.

The milk must curdle before cheese can be made. The hard portion is now taken from the

16. Making Cheese

Old milk sours and thickens. Tiny plants grow in it and sour it. The milk *curdles*.

The little plants grow more quickly if the milk is warm.

For this reason the big cans of fresh milk are often set in cool water, or

liquid. The hard part is *curd*. The liquid is *whey*. Let us see how cheese is made in a factory. The



Cows feeding in a clean model dairy barn

cans of milk are poured into a great vat. A man puts *rennet* in it. Rennet is from one of the stomachs of a baby calf or a lamb. It makes the milk curdle.

It may take an hour for the milk to curdle. Then the free whey is drawn off. The man cuts the curd into blocks and *works* them. He rolls each, presses it, washes it and rolls it over and over again, to work out the whey. Then he may mix a little salt with the curd or leave it fresh.

As the whey comes out, the curd grows soft and dry. It is now cheese but is not ready for market. It is put in a strong press to drive out still more whey.

The cheese is now put in a room to cure or *ripen*. After a time it is ready for market.

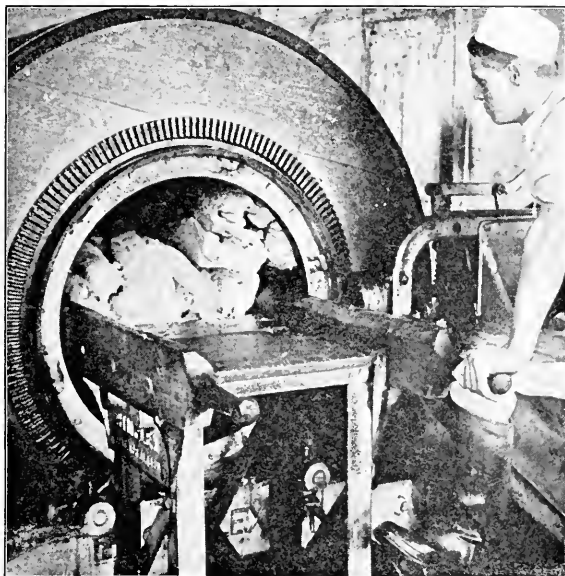
This cheese was made from whole milk, or milk with its cream. Some cheese is made from milk to which more cream is added. Cheese is also made out of skim milk.

Most cheese is made of cow's

milk. Good cheese is also made of goat's milk and ewe's milk.

Whey is good to drink. It contains sugar and other food.

On some dairy farms the whey is fed to hogs. Good pork often comes from such dairy farms.



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Butter churned, worked and salted at the same time

Helps : — What does sour milk look like? What makes it curdle?

What is curd? What is whey? Where does rennet come from? What does it do to milk? How is cheese made?

Which do you think would be richer in taste, the skim-milk cheese or the full-cream cheese?

Name three kinds of milk that make good cheese. Of what use is whey?

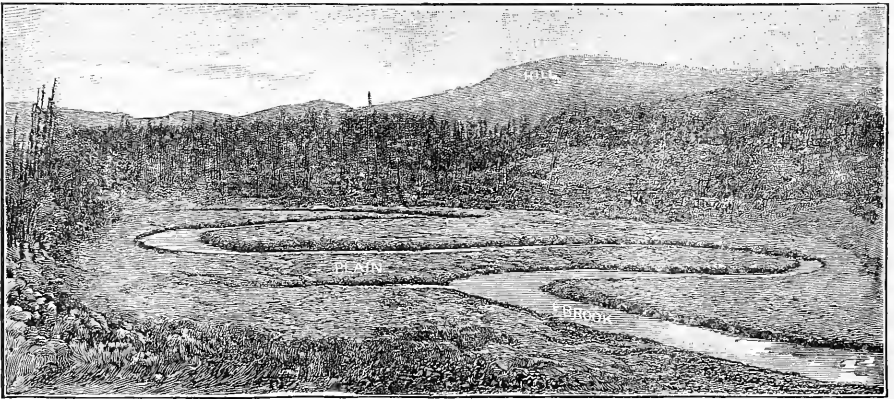
17. Hill, Valley and Plain

On the milk farm we saw that the land was not all alike. Some parts were high and some parts were low. There were hills, hollows and level land.

A hill is high land. Some hills are as high as houses. Others are higher than the tallest houses.

Some valleys are small. Others are wide and deep. Some plains are so wide that a swift train of cars cannot cross them in a day.

Rain and brooks wash much of the fine soil from the sides of hills. But water runs slowly on level land. Here the soil is not washed so easily. It is left for plants.



A hill, a range, a plain, a valley and a brook. The brook flows in the valley

A row of hills is a range. The picture shows a range of hills.

Did you ever climb a hill? What did you see from its top?

Water runs down the sides of hills. It runs into the low land.

A valley is low land. Some valleys are between hills. The picture shows a valley. Its bottom is level.

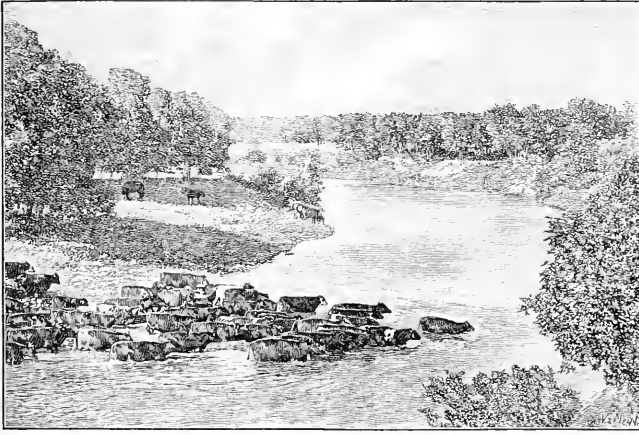
Level land is a plain. A brook flows across this plain. It flows from the hills.

This shows why most of the farms are on plains. Most of the people in the world live on plains. Here they find the best soil and can raise the things they need.

Helps: — What is a hill? What is a range of hills? What is a valley? Where have you seen a hill and a valley?

What is a plain? How large are some plains?

Why is there more rich soil in valleys than on the sides of hills?



A river flows in the valley. Cattle like to wade in the cool water
It helps to keep off the flies

Why are most of the farms in the world on plains? Why do most of the people in all the world live on plains?

18. The Wheat Farm

The snow has all left the fields. Spring has come. The farmers are at work, plowing to break up the soil.

Bring out the bags of wheat. Look at the little kernels. Each is a seed.

Scatter the seeds over the field. Let the harrow turn a little soil over them.

Now the ground is seeded. Rainy days come. Then the warm sun shines. The seeds wake up and begin to grow.

Fine roots like hairs creep down in the deep soil. Green blades push their way up to the light. The stalks grow taller and taller. The wind sways them like waves. All summer the grain grows. Heads of new grain form at the top of the stalks.



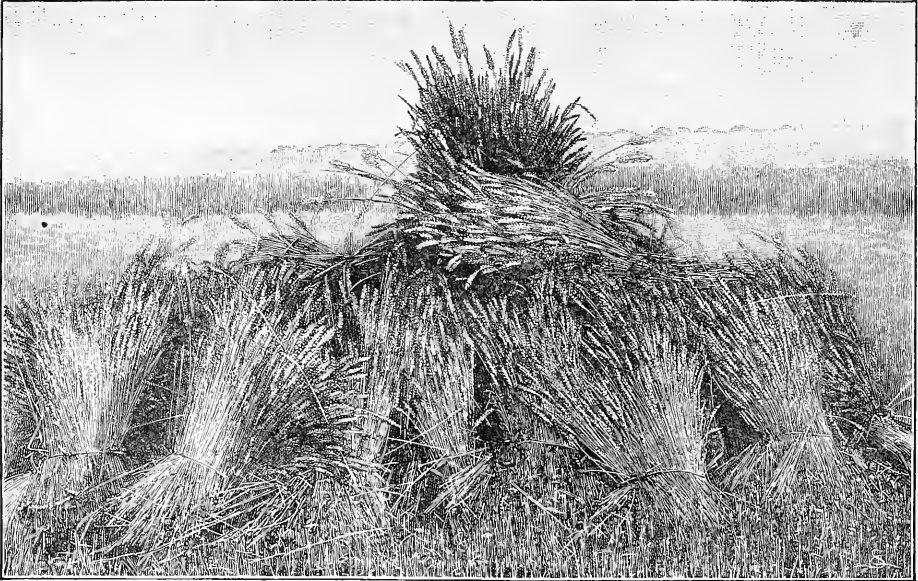
This girl is gathering wheat by hand on a great plain
far over the sea (Russia)

At last the grain is ripe. Great machines cut it and tie it in bundles. Let them stand in the field and dry.

Now comes the machine to thresh the grain. "To thresh" means *to whip* or *strike*. The

Winter snow may cover it like a blanket. Then the plants make an early start in the spring. As the wheat is in the ground all winter, it is called *winter wheat*.

Wheat is to us the most useful of all the grains in the world.



At last the grain is ripe. Sheaves of wheat on a wide plain in the Northwest.
Machines cut it and tie it in bundles

machine whips off the seeds very quickly.

Out goes the straw. There lies the wheat. Put it in bins or sacks. It is ready to go to the mill, to be made into flour.

Some wheat is sowed in late summer or early fall. It starts to grow if the ground is warm and moist.

Helps :— How does the farmer get the land ready for sowing wheat? Do you know how a grain of wheat looks?

What is needed to make seeds grow? Where do the new seeds form?

How do men thresh wheat? How is it threshed on large farms?

What do we call the stalks after taking off the grain? What is winter wheat?

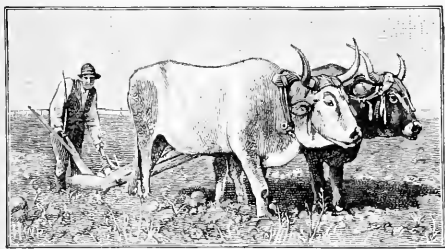
19. The Flour Mill

Now we will go to a flour mill. It is a large building near high falls in a river. The river is swift.

The water turns great wheels. Water power is cheap, but rivers may run low. Then steam may be used.

Cars and boats of wheat are run close to the mill. The grain is taken into the mill and the flour making begins.

Other seeds may be mixed with the wheat in the field. These might taste bad in flour. So the grain is put into a machine that takes them out. It also passes between brushes to clean it.



The old way of plowing. Some great farms now use steam plows

Now the seeds of wheat are clean, but they still have on tough

coats. These coats are the hulls. They must not get into the flour.

Steam softens the hulls so that they will not crumble. Now the wheat can be run between rollers to crush it. Over and over it is rolled to make it finer. The hard parts are sifted out. The fine wheat powder is flour.



Brown people pounding rice to remove the hulls

Some flour is made of the whole grain except the hull. The whitest flour is made of only the inside of the kernels.

The flour is now ready for market. It may be sold in sacks or barrels.

Helps :— Why are mills built near falls? Why may such mills need steam?

How may other seeds become mixed with wheat? What harm might they do? Why is the wheat brushed?

What are the hulls? Why are the grains steamed? How is the wheat crushed? How are the tough parts taken out?

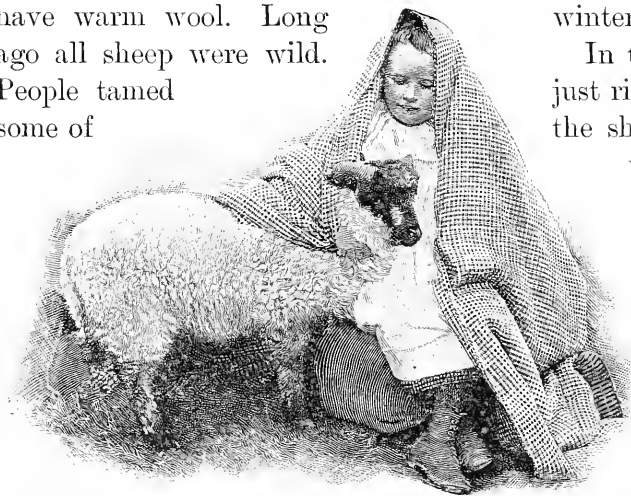
What is wheat flour? How is the finest flour made? How is flour put up for market?

Find out what things that you eat have flour in them. Find out how bread is made, and what is put in it.

20. Sheep and Wool

There are many kinds of wild sheep. They do not like woods or low lands. They like to live in high places. They even climb rough mountains.

The air far up on mountains is cold. Perhaps this is why sheep have warm wool. Long ago all sheep were wild. People tamed some of



Sharing her warm shawl with the lamb

them, to have their wool, meat and skins. Some lambs are pets.

Even the tame sheep like to feed in hilly places. They can jump quite high, like wild sheep.

Wool is oily. The oil sheds the rain from the sheep.

Wool is made of fibers. They look like hair. We use wool to make warm cloth.

Here is a picture of a little girl

and a lamb. The lamb gave its wool to help make a warm shawl. A cold day has come. The wool has grown again, but the girl thinks the lamb may be cold. So she goes out to share the shawl with her pet.

Wool grows thick and long in winter. Can you think why?

In the spring the wool is just right for clipping. Now the sheep are sent to sheds where swift machines clip off the wool. It is sold to make cloth, hats, socks, carpets and many other things.

Lambs not a year old have very fine wool. It is sold as lamb's wool and brings a high price.

There are many kinds of sheep. Some have long, fine wool.

Helps:—Where do wild sheep like to live? Why do they need warm wool?

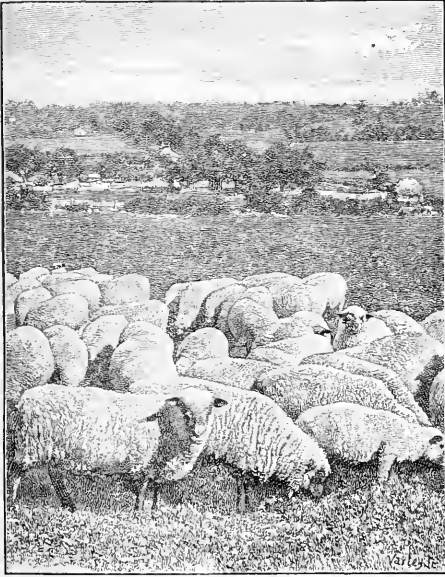
Why did people long ago tame sheep? Why does wool grow oily?

What story does the picture tell? When is wool clipped? Tell about clipping it.

What is said about the wool of little lambs? What kind of wool is best? Name some things made of wool.

21. Making Woolen Cloth

Wool often goes to the mill dirty and oily. Steam may be



Sheep grazing

blown through it to help clean it.

The wool is then dried. If it is dried too much, it will not feel soft and smooth.

Wool may come to the mill in lumps. It is put in a machine that has moving teeth. They pull the wool apart and leave it light and fluffy.

If the wool is stiff, a fine spray of oil is blown over it. The oil softens it.

Next the wool is carded in a machine. It has many teeth like

a comb, but finer. The wool gathers on the teeth, like hairs on a comb. In this way the fibers are made to lie one way. Brushes take them off.

A machine twists the wool into yarn. This is wound on great spools.

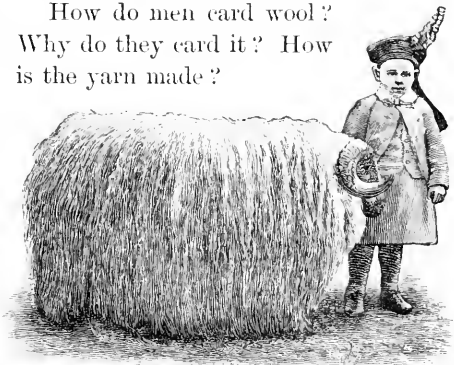
Pull a piece of woolen cloth apart and see how it was made. You will find that the yarns cross one another. Follow a thread and see how it goes over, under, over, under.

Putting threads or yarn together in this way is *weaving*. Mills have machines that weave the cloth.

Other fibers are used to make cloth. The most useful is cotton.

Helps : — Tell how wool is cleaned in mills. How is it made soft and fluffy?

How do men card wool?
Why do they card it? How
is the yarn made?



Some kinds of sheep have very long wool

What is weaving? Name a plant fiber used in making cloth.

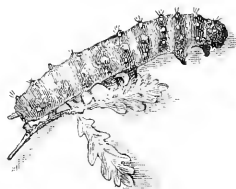
22. Fibers for Cloth

A fiber is a very fine thread. It may grow in a plant or be spun by some little creature.

Fibers are very useful to us. We use them in making thread, twine, rope, cloth and many other things.



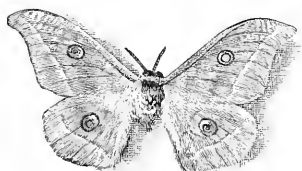
EGGS



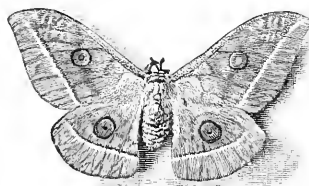
CATERPILLAR OR "WORM"



COCOONS



MOTH



MOTH

Silkworm, cocoons, moths and eggs

A spider spins a web. It is made of fibers. The web is its home. In it are caught flies and other insects for the spider to eat.

Silkworms spin soft fiber. They wrap the fiber round them. After a time they burst the fiber and come out as moths. We shall study more about this fiber.

In Africa the black people pound bark and get fiber from it. They use it in making cloth.

The brown people get fiber from pineapple leaves and make soft pretty cloth. They also get fiber from a kind of banana plant, to use in making hemp rope. This is not true hemp. The latter comes from hemp plants.

Flax plants have a very useful fiber. It forms an inner bark round the slender stalks. The fiber is linen. You can see it if you untwist a piece of linen thread. Flax is also the plant from which we get flaxseed. Linseed oil is pressed from these seeds. This oil is used largely

in paints. There are many other useful fibers. Cotton is the most useful of all.

Helps: — What fibers have you seen? Name some of the fibers you use. Can you draw a spider's web?

What is the softest fiber you have seen? Where does it come from?

What is said about the fibers used by the brown people? For what is hemp used?

What is linen? Where do we get linseed oil? Of what use is it?

23. The Story of Cotton

Cotton grows on a low plant, as in the picture. It is found in nearly all hot and warm lands, except the very dry ones.

The picture shows how cotton looks when the seed pods burst. They grow quite large after the blossoms have fallen.

In the pods are the seeds of the plant. Round the seeds grows the fluffy white fiber that we call cotton.

This fiber is used by people of all races, — the yellow, black, red, brown and white. One

half of all the people in the world wear only cotton cloth.

Just stop and think what this means. All their clothing is made from this one kind of plant. And besides, nearly all the rest of the people, except savages, use some cloth made of this white fiber.

Some cotton has long fine fibers.

This is the best kind. It makes the softest and finest cotton cloth.

Long ago the fiber was pulled by hand from the seed. All day long a person pulled off the fiber and at night found he had only about a pound. This work of course made the fiber very costly.



A good crop of cotton. Above is a cotton plant

Even at this time there were machines to spin the fiber into thread, and others to weave cloth.

Helps : — What is cotton cloth made of? How widely is it used?

What kind of cotton fiber is best? Why was it costly long ago? Why is it much cheaper now? How much fiber could a man pull by hand in a day?

At last a machine was made to tear the fiber from the seed. It is called a *gin*, meaning *engine*. A large gin can do as much work as *ten thousand* men.

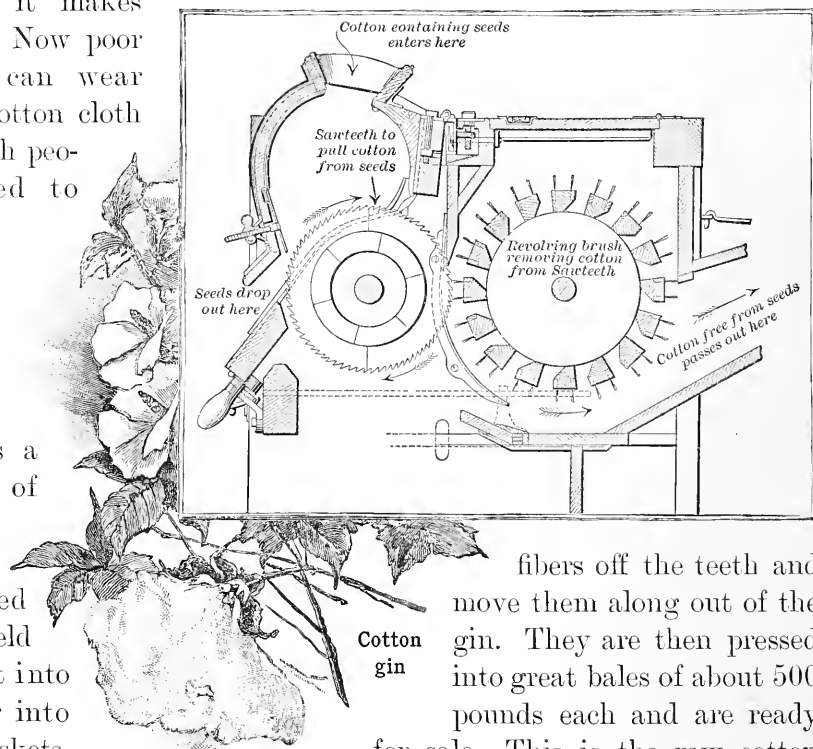
Think what a saving this makes in labor! Think also how much cheaper it makes cotton. Now poor people can wear better cotton cloth than rich people used to wear.

Let us look at the wonderful gin. Here is a picture of it. The cotton is picked in the field and put into sacks or into huge baskets. Then it is taken to the gin. Of course the fiber is clinging to the seeds.

Now we will drop it into the gin at the top. Do you see the saw-teeth upon which it falls? The

teeth catch the fibers, pull them off the seeds and draw them to narrow slits. These let the fiber pass but hold back the seeds, tearing them apart.

Now look for the wheels that carry brushes. These brush the



fibers off the teeth and move them along out of the gin. They are then pressed into great bales of about 500 pounds each and are ready for sale. This is the raw cotton that goes to mills to be made into thread and cloth.

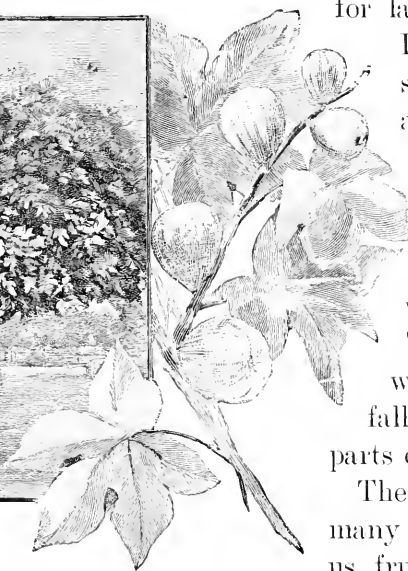
The cotton seeds are not thrown away. They are put to many uses. First they may be put in a strong press, to squeeze out the

cottonseed oil. Some of this is used in making soap and some is made into oil for table use. It also has other uses.

The dry part left after the oil is pressed has many uses. It may



Fig tree and figs



be fed to cattle or may be put on the land to make it fertile.

Our own country has the best cotton lands. They are in the South, where the days are warm and there is plenty of rain.

Helps: — How much fiber can a gin pull? Tell all you can about a cotton gin. What is raw cotton? About what does a bale of cotton weigh? What use is made of raw cotton?

What use is made of cotton seed? Where are the best cotton lands?

24. Uses of trees

How could we get along without the trees? But there are lands in which no useful trees grow.

Far away in the North, along the shore of the icy ocean, it is too cold for large trees to grow.

In places may be seen tiny birches and willows, but they are dwarfs, growing only a few inches high.

Most trees like warm, moist air. They grow best where plenty of rain falls upon the warm parts of the earth.

The trees we see have many uses. Some give us fruits, as the apple, pear and peach. Others give us the wood used in making houses and for fuel. We use nearly all parts of trees.

Helps: — What is said about trees in the cold North? Where do most trees grow best?

Can you name a dozen trees that yield fruit? What kinds of wood have you seen used as fuel?

Name some kinds of wood that are used in building houses. Name some you have seen in furniture.

Some of the wood for furniture grows in forests far away in other lands. The pretty ebony and mahogany grow in warm lands.

The wood of many spruce trees is ground to pulp and made into paper.

The bark of hemlock trees is used in tanning hides to make leather. Canoes are often made of the bark of birch trees.

Maple sugar is made from the sap of sugar maples. Rosin and many other gums come from the sap of trees. India rubber is the dried sap of trees that grow in the hot and damp parts of the earth.

Cloves are the dried flower buds of trees. They grow in hot lands.

The seeds of one kind of tree give us cocoa and chocolate to drink. The seeds of another kind give us coffee.

Root, trunk, bark, sap, leaf, seed, blossom, bud, — all the parts of trees are useful to man.

Helps: — Name a kind of tree used in making one kind of paper. Name two trees that have useful bark.

Tell all you can about the uses of tree sap. What are cloves?

Where do we get coffee and chocolate? Can you name any other parts of trees that are useful to us?

25. The Useful Palms

You know what trees are most useful where we live. Let us look at some of the trees that grow in hot lands far away. Chief among these are *palms*.

We all know what coconuts are. They grow on palms. These trees like to grow near the shores of the salt sea and often lean out over the water. They grow in many hot lands.

The leaves of this palm have strong fibers.

They are made into mats, rope, baskets and cloth. The natives make dishes out of the hard shell of the nut.

This nut or fruit has many uses. The water or milk in it is very good to drink on hot days. The “meat” in the nuts is used for food. The dried nuts yield oil that has many uses. Some of it is used in making soap.

Dates grow on palms. They thrive near green spots or springs in deserts. They like hot dry air



Cloves are dried flower buds of trees

but must have water. Dates form the chief food of people in some deserts. The dates that come to us are dried and pressed.

Oil is taken from the seeds of several palms. A kind of wax forms on the leaves of other palms and is scraped off. Both the wax and the oil are used in making candles. They also have other uses.

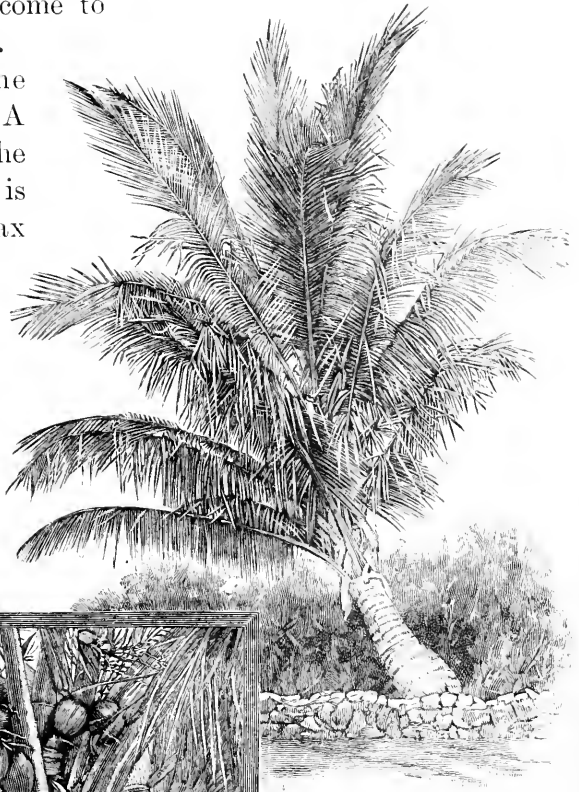
Have you eaten sago pudding? Sago is palm starch. It grows in the cells of the palm trunk.

Palm wine is made from the sugary sap of some kinds of palms. It is used by people in some of the hottest parts of the world.

Do you know how rattan looks? It is the long stem or stalk of some kinds of palms. Rattan is used in making furniture.

As a whole, palms are the most

useful plants growing in nearly all the hot lands of the earth.



Coconut tree and coconuts

Helps : — How large is a coconut? What is inside the hard shell?

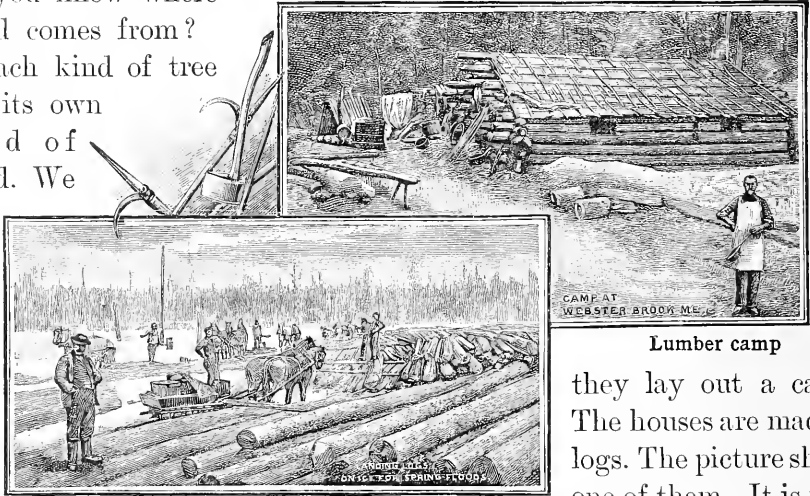
Name some things that are made from fibers in the coconut leaves. What more can you tell about the coconut palm?

What is said about dates? What is palm oil? Tell about the wax palm. What is sago? What is rattan?

26. In a Forest

Name some things made of wood. In the North men go into the forests in the fall to work. First Do you know where wood comes from?

Each kind of tree has its own kind of wood. We



Logs ready to float down to a sawmill

Lumber camp

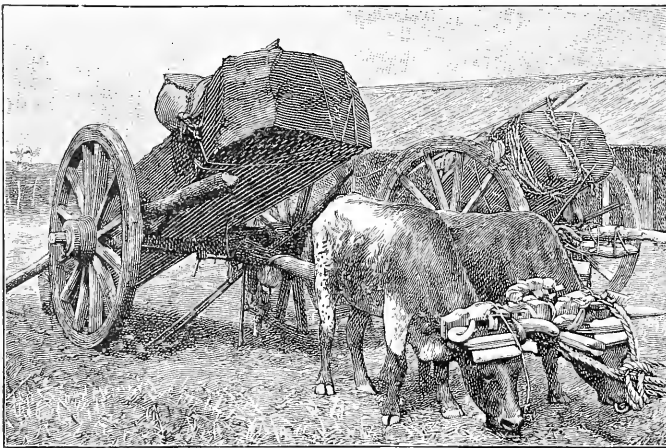
they lay out a camp. The houses are made of logs. The picture shows one of them. It is used for a cookhouse. See

have hard woods and soft woods. Oak, ash and maple are hard. Pine and spruce are two soft woods.

the cook with the white apron. Near it is a large room with long tables. Here the men eat.

The other houses are for sleeping.

Winter comes. Many trees are now cut down. Great sleds may be used to drag the logs over the snow to the rivers. Here they are piled on the banks or rolled on the river ice.



Oxen hauling a heavy log

In some places the logs are hauled on cars to rivers. In the South, where it is warm, great wheels or cars are used in place of sleds.

Spring comes. The days grow warm. The ice melts in the rivers. Rain falls and the snow melts. The streams are high and strong.

The logs float down the swift rivers.

Men go along to keep them out in the stream. The men often slip into the cold water.

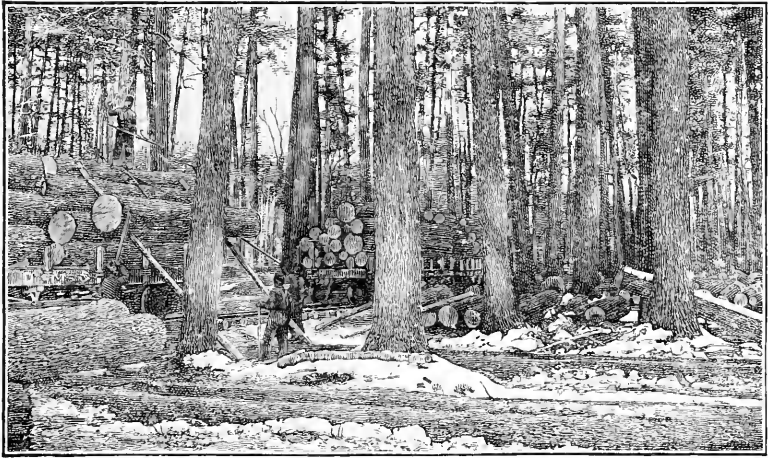
At times the logs jam and stop. The logs behind push on and pile up. Now the men must be careful. They may be crushed when the logs start again.

At last the logs reach the saw-mill. They float till the mill is ready to use them. Then they are hauled out of the water. Great saws cut them into boards. Thick boards are planks.

The wood may be sawed into many shapes. There are shingles and the trimmings for houses.

Much of the spruce wood is ground to a soft pulp and made into paper. Paper is also made from other kinds of plants.

Men have cut down many trees to clear the land for farms. In



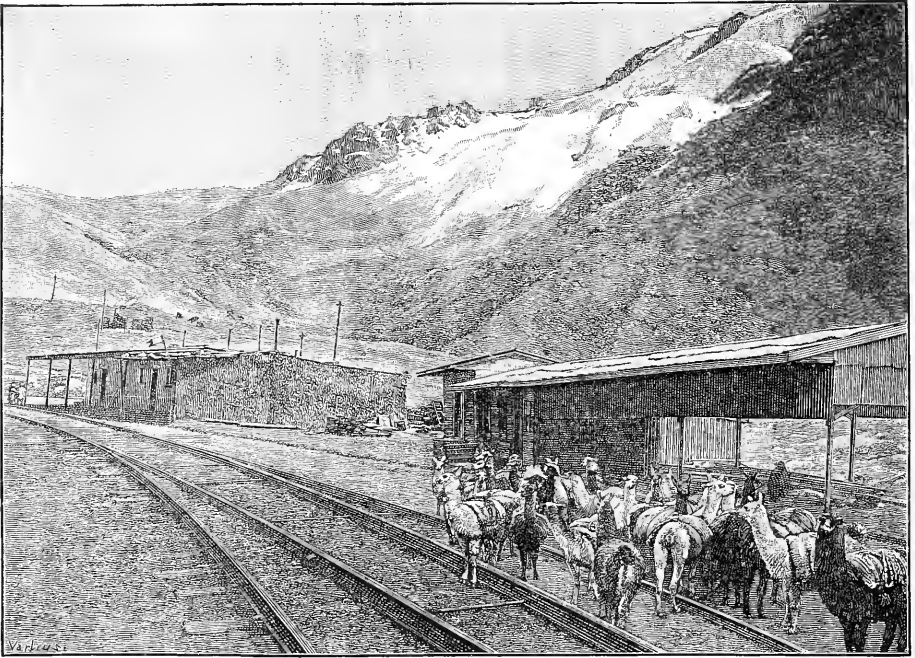
Loading logs on cars to haul out of the woods

many hilly lands and mountains there are large forests.

Helps : — Name some of the trees you have seen. How can you tell pine wood from oak ?

Tell what you can about making a logging camp. Why are roads built ? Why do men float logs down rivers ?

Tell about the work of getting logs to sawmills. Why do not the logs float down in winter ? What swells the rivers in spring ?



Mountains far south of us (Andes) with snow on their sides. The llamas carry loads to miners. High peaks are bare and rocky

27. Mountains

A mountain is very high land. It is higher than a hill. Some mountains have round tops. Others have sharp tops. The top of a mountain higher than the land about it is a peak.

High peaks rise far up in the frosty air. Some are buried in snow and ice.

Grass and trees grow on many low mountains. Very high peaks are bare and rocky.

In some mountains the rocks are bent. Other mountains are made of level beds of rock.

Water slowly cuts away the sides of mountains. The rocks crumble to soil. Most of it is washed away. In places the rocks are left bare.

A row of mountains is a range. A low place over a range is a pass.

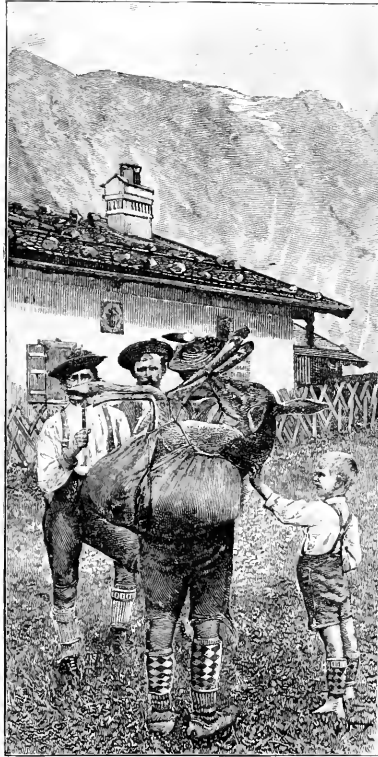
Few people live on mountains. The land is too rough. Roads are

hard to make. Some people go to the mountains for their health. The air is pure and they like to live in the pines.

Gold, silver and iron come from rocks. They come from many mountains.

This little boy lives near high mountains. You can see them over his home. His father is a hunter. He has brought home a deer. The boy will have some of the meat to eat.

Many wild ani-



Return of the hunter with a deer (Alps)

mals live in the mountains. Here they try to hide from men who hunt them.

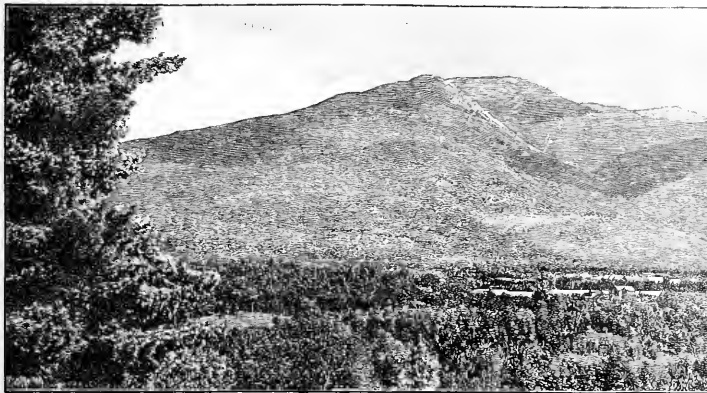
No man with a brave and kind heart will kill for sport. He may kill for food. All the animal has is its life. We ought not to take that except in case of need.

Helps : — What is a mountain? How does it differ from a hill? What is a peak?

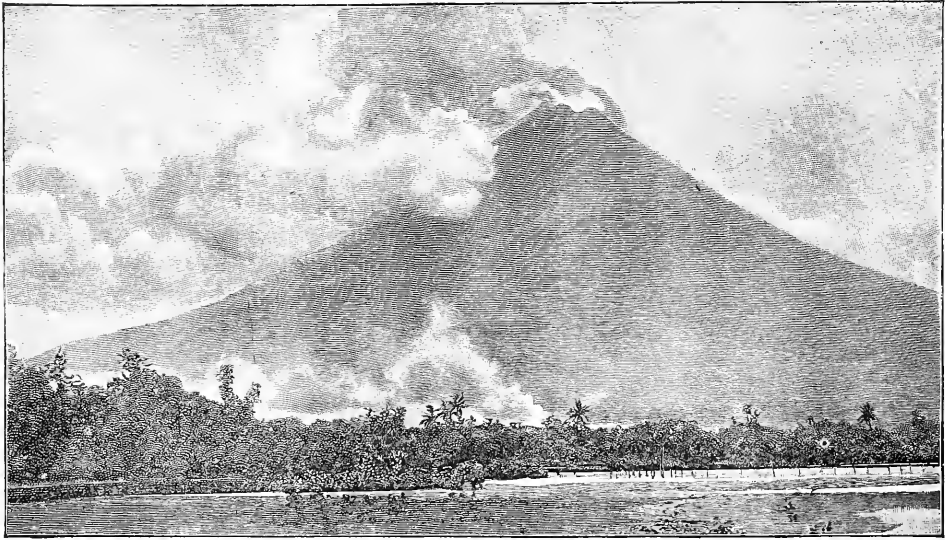
What is said about very high peaks? — about low peaks? What is a range? Why do few people live on mountains? Why do sick people go to the mountains?

Name three metals that come from rocks. Name some of the uses of iron; — of gold; — of silver.

What makes many wild animals go to the mountains?



Low mountains with rounded tops (White) mountains



A volcano sending out smoke at its top and low down on its sides. This cone is made of lava and ashes (Philippines)

28. Volcanoes

Smoke and steam rise from some peaks. Melted rock also flows from them. Such peaks are volcanoes.

The melted rock is lava. Very fine lava is ashes. Some peaks are made of lava and ashes. They come out of a hole or crater.

The word "crater" means *cup*. The hole is often shaped like a cup.

A volcano does not send out fire. The hot lava may shine on the clouds and make them look like fire.

Lava rock crumbles slowly, like other rock. When it is fine it

makes good soil. Some of the best farms in the world have lava soil.

Helps : — What is a volcano? What comes from volcanoes? What does "crater" mean?

29. How we Trade

We need many things we cannot raise or make. We do not wish to go far away to other lands to buy them. We go to a store for them.

But where do stores get things that grow far away? The goods come in ships to cities on the coast. Such cities are ports. From the

ports the goods are sent to the stores.

Thus the farmer may have more milk and garden stuff than he can use. He is glad to sell part. A mill is glad to sell shoes, cloth, tools or lumber.

It is the same with people of other lands. They are glad to sell what they do not need.

One land far away sends us tea and silk. We send back coal oil and cloth. Another sends us sugar. We send back cloth and tools.

Buying and selling is trade. When trade is large and with places far away, we call it commerce.

Let us study some of the things that help trade. First come good wagon roads.

A farmer wishes to haul a load to market. He knows how strong his horses are. He thinks of the road. If it is steep or muddy, the load must be small. A rough road may break the wagon.

If the road is firm and smooth, with gentle grades, the horses can haul large loads.

A good road helps horses. They work hard for only what they get to eat and for a place in the stable. A bad road may ruin many good horses. It may hurt their feet, strain them or overwork them.

Farmers can help by putting wide tires on wheels. Wide tires do not cut a road very much.



**Ox cart loaded with rice going to market in a city of Japan.
On this smooth road the little ox can haul a heavy load**

Helps:— Why must we buy at stores? Where do the stores get tea, coffee and other goods? What is a port?

What do farmers sell? What do they buy? What do people in other lands sell? What do they buy?

What is trade? What is commerce?

Tell all you can about the need for good roads. How can we pay horses for their hard work?

Who pays for roads? Why should heavy wagons have wide tires? Do wide tires pay? -

30. Railroads

Once upon a time there was grass all over a plain. Many cattle fed there. Each year men drove the fat cattle far away to market. The cattle had to walk all the way.

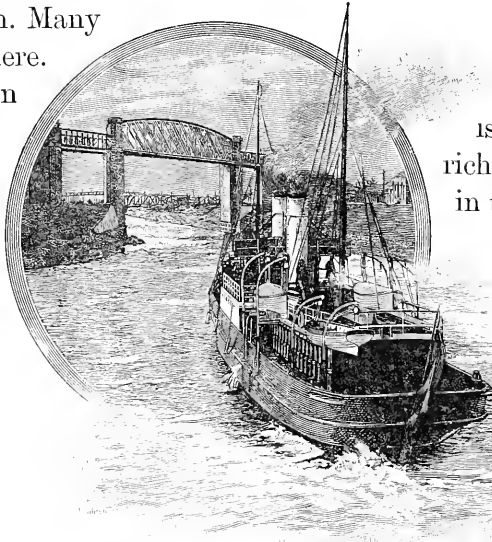
The soil was rich but only grass grew in it. Wheat would grow there, but the market was too far away. There was no railroad. It would not pay to haul wheat so far in wagons. So the people kept on raising cattle, for they could walk to market.

At last a railroad was built. Here

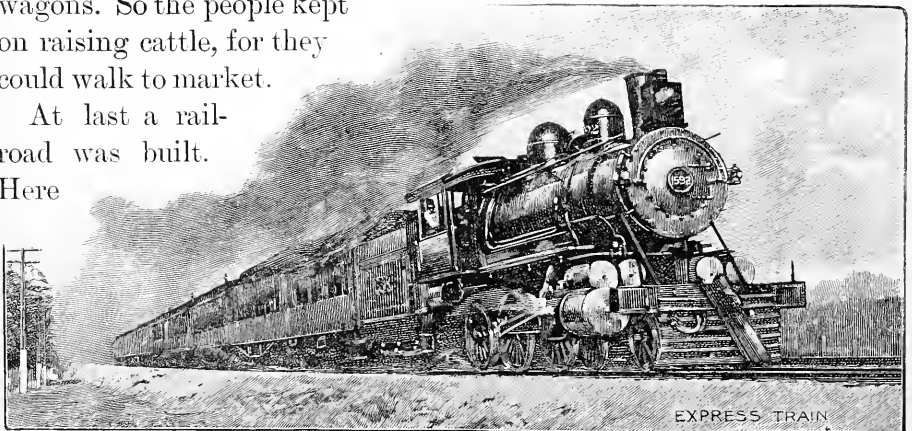
was a way to send grain far away to cities. Most of the cattle were sold. Golden grain soon waved in the fields. This plain is now one of the richest wheat regions in the world. The railroad helped to make it rich.

Without the railroads some places could not send milk to the cities. The milk would all

sour before the wagons could reach the homes of the little children.

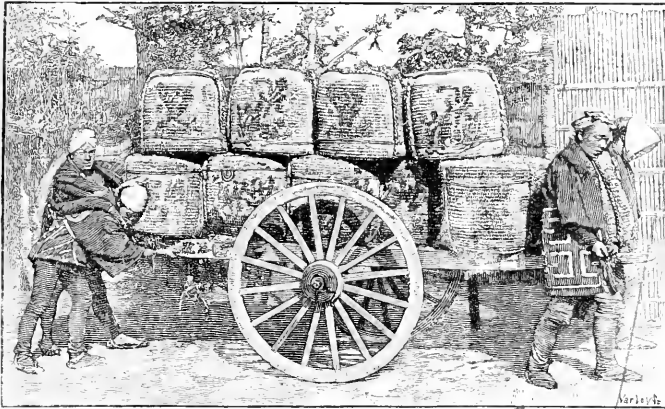


Ship with freight on a deep canal (England)



Swift train that carries people from city to city

Goods are also carried on lakes, slow boats. Of course such things rivers and canals. Many cities can also go by rail.



Slow freight where labor is cheap. Hauling chests of tea in China

grow up along such water routes. Ships carry loads far across the sea.

Goods can be sent cheaper by water than by rail. The steel rails are costly. So are long bridges over rivers. The ocean is level, but trains must often go up long grades. In some places two or three engines must be used on a single train.

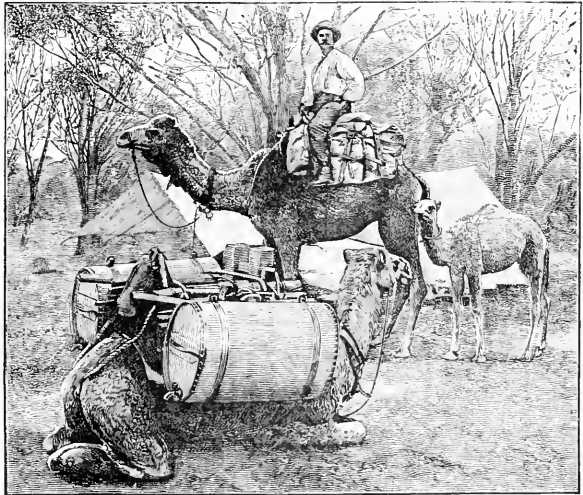
Some goods must go by rail. It would not do to send milk, fresh meat and fresh vegetables very far on boats, unless they are kept cool with ice.

Coal, bricks, lumber, grain and oil can go by

In some dry lands goods are sent on the backs of camels.

Helps:— How may a railroad change people's work? Of what use are railroads? Can you think why cities grow up on good water routes?

Why can goods be sent cheaper by water than by rail? Name some goods that ought not to be sent very far by water unless they are iced. Name some goods that can go by slow boat.



Camels carry goods for people traveling in some dry lands (Western Australia)

31. Life in the City

Now for a trip to the city. Let us go to New York. It is a very large city. The tall houses look like high walls. They are made of brick and stone. How hard the



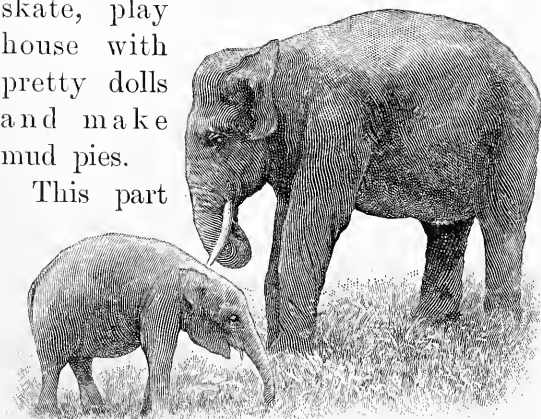
Park donkey

streets are! What a noise the cars and wagons make! There are cars on the street, cars over it, and cars under it.

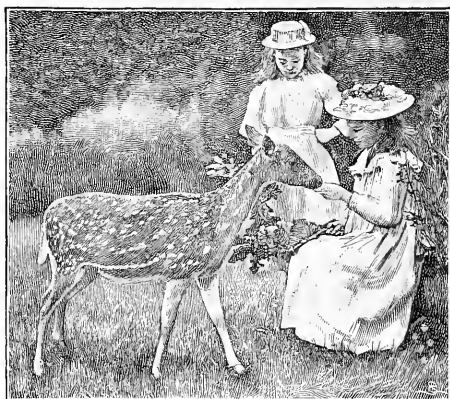
Do boys and girls live here, with no big barns and green fields?

Yes; they live here and are happy. They play ball, spin tops, roll hoops, snap marbles, swim, skate, play house with pretty dolls and make mud pies.

This part



Elephant mother and her baby



Spotted deer in a park

of New York is called the East Side. It would take a long time to count the school children in one square mile. They could join hands and reach thirty miles.

Some days they play in the parks. They hear the bands play and they see many pretty flowers.

In the parks they also see cages of lions, tigers, elephants, monkeys and many other wild animals. There are houses filled with pretty birds from lands far away.

A large house in one park has seals and fishes. They swim in pools or tanks. The seals scream as they splash in the water. Lazy alligators lie in other pools. Only the tips of their noses are out of water.

You should see the fishes. There are almost every form and color. Some can change color while you are looking at them.

There are pretty sponges. They grow on the bottom of the sea. And there are red and white coral. They also grow on the sea bottom.

Then there are the shop windows. Here we may see all kinds of toys. There are boats, cars, dolls, guns, engines, and toy dishes. There are so many other things we can hardly count them.

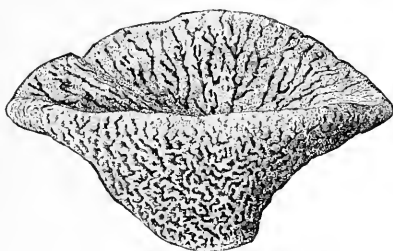
It is fun to go down to the water front. Every day great ships sail in and out. Some come from far over the ocean. They bring goods and people from the other side of the world.

The boys like to go down to the wharves

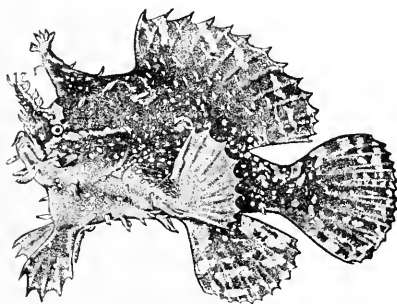
and watch the ships. In school they learn what the great ships carry.

As the boys and girls grow up, some work in stores, others work in shops or mills.

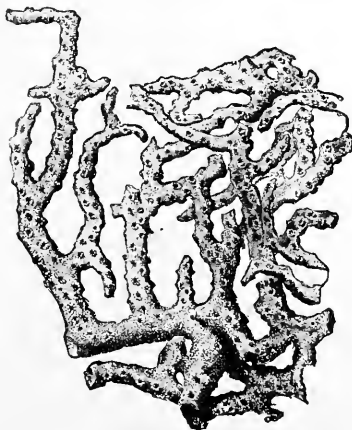
Some young men learn to care for and drive horses. Others run cars and engines.



Sponge from the sea bottom



A queer fish from the deep sea



Coral from the sea bottom

Helps : — Do you know how to play all the games named in this lesson? Which of the animals named have you not seen?

Have you seen any toys in a shop window? What toy do you like best? Why?

How does a steamship differ from a sailing vessel? What moves each?

What are some of the kinds of work done by people in cities? What kind of work would you like best to do?

The teacher will show you on a map where the city of New York is. It is on the east side of the great land we live in. The city is close by a wide ocean on which ships sail.

32. Sewers of a City

Gutters are made to gather water from the streets. Holes



Copyright, Detroit Pub. Co.

Buildings have pipes to carry off waste water from high rooms and deep cellars

are made in the curbs or gutters, to let the water run into sewers. These are long pipes or tubes to carry off waste water. They are

laid under the streets. Rain floods the streets, if the water cannot run off. Even the cellars of houses may be flooded. Wet cellars may cause sickness. There must be some way to carry off the waste water.

Buildings have pipes to carry off waste water. They connect with the sewers under the streets. These must be large enough to carry rain and snow water, as well as the water from houses.

Some sewers are large iron pipes. Some are tubes or tunnels of brick or cement. Some are so large that men can walk in them.

Sewers must be deep enough to take water from cellars. The great pipes must run to the lowest part of the city, so as to drain all houses. The outlets or lower ends are often far from the crowded city.

Bad gases form in sewers. To keep out the gases, the pipes in houses have bent places or *traps*. These stand full of water.

The gas cannot get past the water in the traps. It rises in long pipes or *vents* to the roof and is blown away.

If a trap leaks and the water runs out, the poison gas will get into the rooms. People are often made sick by this gas and many die.

Men go down in deep trenches and in dark cellars to lay sewer pipe. If they do their work well, they save many lives. A man who does his work well in the dark is as true a hero as the man who does his duty in battle.

Helps: — Where does the rain water from city streets run? If the water could not run off what harm might be done?

What are some of the uses of water in cities? How do cities take care of the waste water? How does the waste water from houses reach the sewers? Of what are sewers made? Why must they be laid deep? Why must they run to the lower parts of cities? Where may they end?

How is sewer gas kept out of rooms? When may it get into the rooms? Why are vents put on sewer pipes? If sewer gas gets into a house what harm may it do?

If you live in a city, find out what becomes of the rain falling on the roof.

33. The Health of a City

Many things in a city may cause sickness. Among these are impure water, wet cellars, sewer gas, foul air, flies and any filth in yards. Cities employ health officers to look after such things.

Some one may be very sick with smallpox. It will not do to leave



Copyright, Geo. P. Hall & Son, N.Y.

Health officers examine people coming in ships to make their homes in America. Above is a station (Ellis island) where thousands of such people land in New York

him in the heart of the city. The germs of this sickness float in the air. One sick person may cause the death of others.

The health officers plan for a house far from other houses. The sick man is taken to it. He has a doctor and a nurse, and is given good care. When he is well he can go home. This is one of many kinds of sickness the city watches over.

Health officers look after the homes rented to the poor. If there is sewer gas the owner must have the pipes and traps fixed. The back yards must be kept clean. The owner must keep the house in repair, so as to prevent sickness.

over the health of the city, even while we are sleeping.

Helps :—Name some causes of sickness in cities. Tell about the work of health officers.

Why do doctors vaccinate people ?
Why should we not spit on walks or in cars ?



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Elevated railway. Cars running high overhead

34. Travel in a City

As a city grows, the price of land goes up. Stores take the place of homes on the busy streets. As more people come in, the price goes higher. Then the buildings are made taller, so that more stores

Signs are put up, telling people not to spit in cars or on sidewalks. Spit has often many germs of sickness. When dry they float in the air and people breathe them. Long dresses also sweep up germs and carry them about.

Health officers forbid the sale of some kinds of food and other things that harm people. They carry poor sick people to hospitals, where they may have free care. In these and many other ways the officers watch

may stand on small lots of land.

A few years ago men began to make the frames of buildings out of iron and steel. The beams and posts are put together like bridges. Upon these the tile, brick and stone may rest. In this way a building has been made fifty-two stories high. It is shown on page 42.

When people make their homes away from stores and offices, they must find some way to go back and forth. They go home to

sleep, and each morning go back to work.

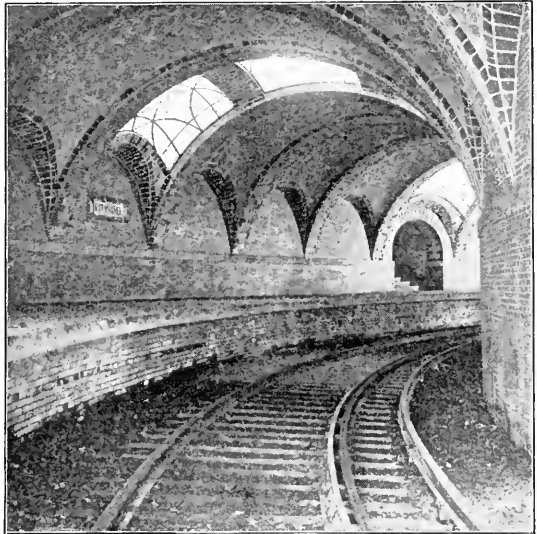
Long ago horse cars could carry all who wished to ride. But the tall buildings led crowds to the busy parts of cities and such cars could not carry them.

In some cities cars were hauled by long wire rope running under the streets. This plan is still used in places. In other cities such cars could not carry the crowds. Railways were built high over the streets. We call them *elevated railways*.

Some overhead cars are run by steam. Others use electricity. But in some cities even these cars cannot carry all the people who wish to go to the tall buildings. So long tunnels or *subways* are dug under the streets. Cars run in them, and people can be whizzed along very fast, as there are no wagons or horses in the way.

Electric lines from cities often run far out into the country. A map of such lines may look like a spider's web. People can go back and forth quickly to work. At the same time the children can have the pure air and outdoor life. More

people can also own homes, as the land in the country is cheaper than in the city. Homes in the country may be built of wood, while in the crowded city streets only brick or stone can be used, for fear of fires.



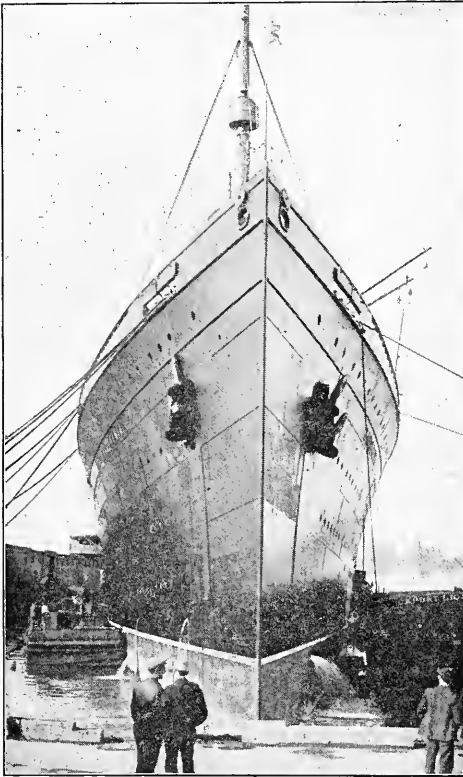
Curve in a subway where electric cars run underground

Rivers flow through some cities or past them. These may call for bridges, so that the land on both sides may be used. The great city of New York has bridges so high that tall ships can sail under them. This same city has tunnels in which electric cars and steam trains can run under the river.

Helps : — Can you tell why the price of land rises in busy cities? Why do

men wish to build stores where the most people are?

Can you think why very tall houses are not built out in the country? Tell how the tallest buildings are made.



Copyright, Underwood & Underwood, N.Y.

One of the great steamships that carry mail across the ocean

As cities grow, why do people move their homes farther away from the shopping centers?

Tell some of the ways people reach their homes at night and their work in the morning. What moves the cars? Why do people like to have homes in

the country? Why are country homes cheaper than city homes? Why must brick or stone be used in crowded cities? Do you know of any cities that have been burned?

Of what use are bridges?

35. Sending a Letter

How easy it is to send a letter! We write it, seal it, put on a stamp and drop it into a mail box.

A man comes to the box and takes out the letter. He puts it in a bag and it goes to the post office. Here it is stamped with the date.

A man looks at the letter to see where it is going. It may be for some person in Cuba. He puts it in a bag and sends it to a train. Now it is off for some port from which a steamer will sail for Cuba.

The port may be New York. If so, the steamer sails far south. Days pass. Then a tall lighthouse comes into sight. It is at the mouth of Havana harbor.

The mail goes ashore in a small boat. The post office is near by. Here the letters are again looked over, to see where they are going. Our letter is tossed into a bag and sent to a train.

Away it goes once more, out where sugar cane grows, and

strange fruits we have never seen. At last the mail bag is put on a little sugar train. The cars wind in and out till they reach a mill where brown sugar is made.

Here is a small post office. The letters are taken out and given to postmen. One of them takes our letter and starts off on horse-back over the mountains. He stops in a little village, knocks at a door and hands the letter to the person whose name is on it.

Who pays for all this work? We do, when we put the two-cent stamp on the letter.

Most letters go a very short distance.

Many do not leave the city where they are written. Others go far away. Thus some call for much work and others for very little.

It would be hard to fix the cost for each letter. One might cost a tenth of a cent, another ten dollars. The *average* cost in our country is about two cents. This amount is so small it is put on every letter, up to a certain weight.

Two cents will also carry a letter to Cuba or Canada. Letters to some countries call for five-cent stamps. At the post office you can find out the price of sending a letter to any part of the world.

Letters help in trade. Men write



In some large cities mail is forced by air in long tubes underground. Here the bags of mail, just off a train, are going into a tube that leads to a post office

for prices of goods or to order them. Checks are sent in letters. Money orders are sold at the post office and these go by mail.

Many other kinds of messages go in letters. Best of all is the letter the young man sends home to his mother, when he goes out into the world to win his way.

Helps : — Find out all you can about the work in a post office.

36. Harbor and Port

Some cities grow near the coast. Let us see why.

People often wish to send goods away on ships. They also wish to bring goods on ships from other lands. Men try to find the best places for the ships to load and unload.

The water must be deep so that the ships will not strike bottom. It must not be too deep to anchor in. It is better if the deep water reaches close to the shore. The ships can then lie beside the wharves. This makes it easy to load and unload.

High waves may sink ships. Strong winds may drive them ashore. In some places arms of land shut out the waves. Hills help to ward off gales.

A body of water like this is a harbor. It is a safe place for ships

to anchor. It is an easy place for them to handle freight.

New York has such a harbor. It is deep and wide. Gales cannot drive strong waves into it. Ships

can go in and out easily. The water is deep close to the wharves. The largest ships can lie beside them to load.

A city by a harbor is a port. The ocean is often called the sea. A port by the sea is a seaport. New York is the largest seaport in our country.

Helps : — Why do we need seaports? Why must the water in a harbor be deep? Can it be too deep?

Why is it better if deep water lies close to shore? Tell what else is needed for a good harbor. What is a harbor?

Tell all you can about New York harbor. What is a port? — a seaport?

37. Why Seaports Grow

Some seaports are at the mouths of rivers. The mouth of a river is



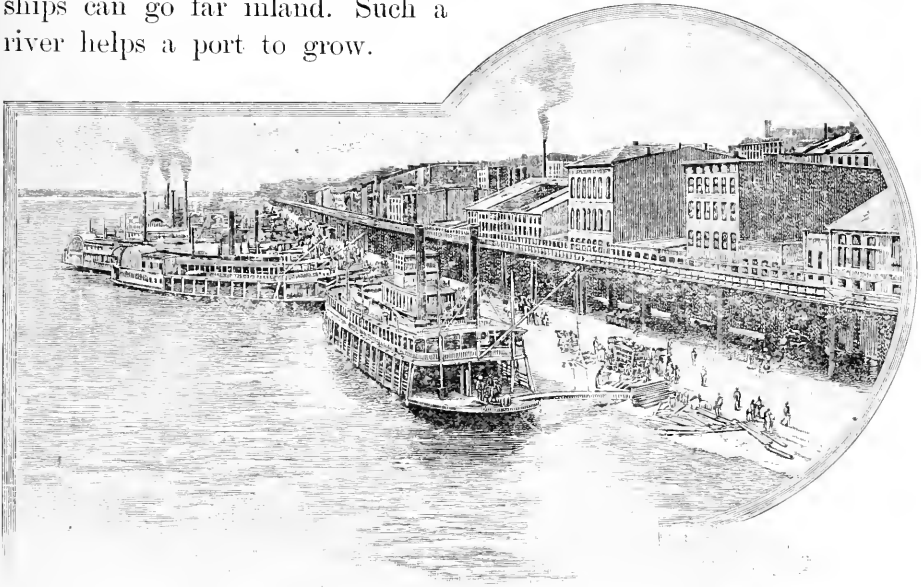
Children of other lands like to go down to the wharves where boats come in

the part that empties into the sea or other water. It is the lower end of a river.

If a river is deep and wide, ships can go far inland. Such a river helps a port to grow.

goods from other lands. Then they supply stores not in seaports.

Railroads help ports to grow, just as rivers do. The cars carry



Boats that go up and down the longest river in the world

The towns and cities along the river can use the one great port at the mouth. They can send goods on boats down to the port. Boats can also bring back goods that come from other lands.

The river trade calls for more ships, wharves and men in the seaport. These men must have homes. Workmen move there to build them. Stores of all kinds are needed. The stores can easily get

freight and people to and from the ports. Many people come to trade in large ports.

If quick trains run, people can work in the port and live in the country. Thus the suburbs grow.

Helps :— What is the mouth of a river? How does it help a seaport to be at the mouth of a river?

Why do cities grow along deep rivers leading to large ports? How do such cities help the seaports to grow?

38. Why Other Cities Grow

We have read about a mill by a waterfall. Some falls turn wheels for many mills. People are needed for the mills.

They must have homes and stores. It is easy to see why cities grow near high falls in rivers.

It is also easy to see why cities grow along deep rivers. They can trade by boats with one another. The boats may even go down to ports by the sea. Then the cities can trade with

lands far over the sea.

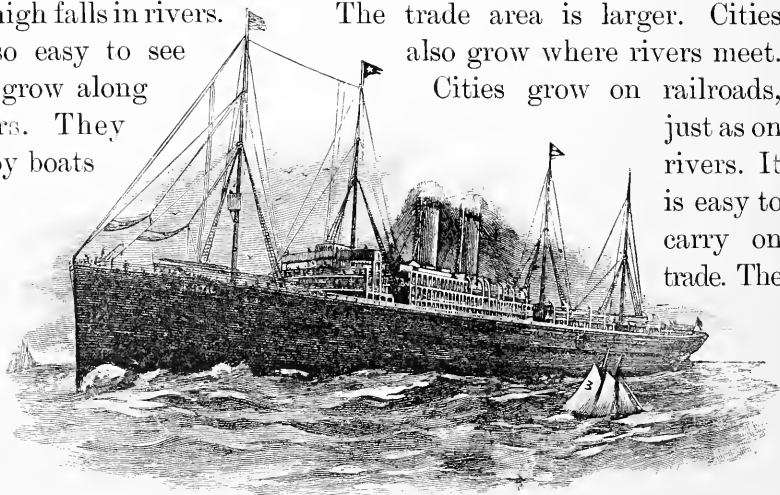
Some lakes are very large. They are like great inland seas. They reach out to farms, forests and mines. Great ships gather up the products. Large ports grow by such lakes.

There are five such lakes near the northern border of our country. They are called the Great Lakes. A canal and a river connect them with the city of New York.

Chicago is far inland on one of these lakes. It is the largest lake port in the world. It also has many railroads.

Many cities grow where railroads meet lakes or rivers. Goods may then be sent by boat and by rail. The trade area is larger. Cities also grow where rivers meet.

Cities grow on railroads, just as on rivers. It is easy to carry on trade. The



This steamship uses the compass to find its way across the ocean

growth is faster if many railroads meet in one city. Can you tell why?

Helps : — Why do cities grow near falls in rivers? Why do they grow along deep and wide rivers?

What is said about the Great Lakes?

Find out what canal joins these lakes with the Hudson river. How has this canal helped New York to grow?

What is said about Chicago? How has the Erie canal helped Chicago to grow?

Why do cities grow near railroads?

Why do they grow where railroads meet lakes or rivers? — where one river flows into another?

Find out what makes your own city or town grow.

39. Points of the Compass

Sailors find their way far across the sea. They must know where north, south, east and west are. We all ought to know how to find our way. Let us learn how.

The sun rises in or near the east. It sets in or near the west.

Face the east. North is now at your left hand. South is at your right. West is behind you.

At midday all shadows where we live point to the north. Can you think why?

Sailors use the compass to show north, south, east and west. Here is a picture of a compass. You can see a round card with letters on it. What are the letters? What do they mean?

Under the card there is a little

bar or needle of steel. It is a magnet. It swings easily. Even a breath of air may move it.

The earth draws this needle and makes it point almost north and south. In some places it points just north and south. The needle shows sailors where north is.

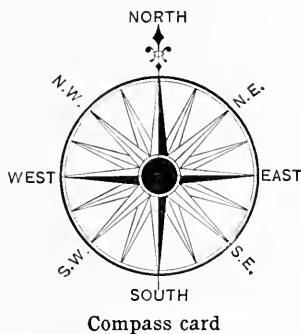
The sun and stars also help sailors to find their way. They cannot see the sun on cloudy days, nor the stars on foggy nights. The little needle points out the way even when the sun and stars are not in sight.

Helps: — Turn your back to the north. In what direction are you now facing? Name some objects south of you.

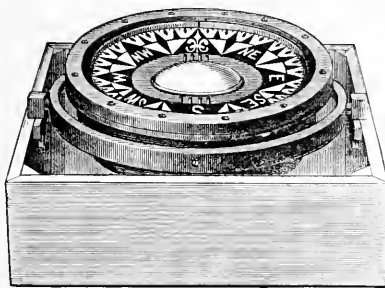
Can you name a street that runs north and south? Can you name one that runs east and west?

Point halfway between north and east. We call this northeast. It may be written N.E. Where will you look for northwest? How else may you write it? Where is southwest? — southeast?

Try to learn how to find north by the stars. Can you find the north star?



Compass card



Ship's compass

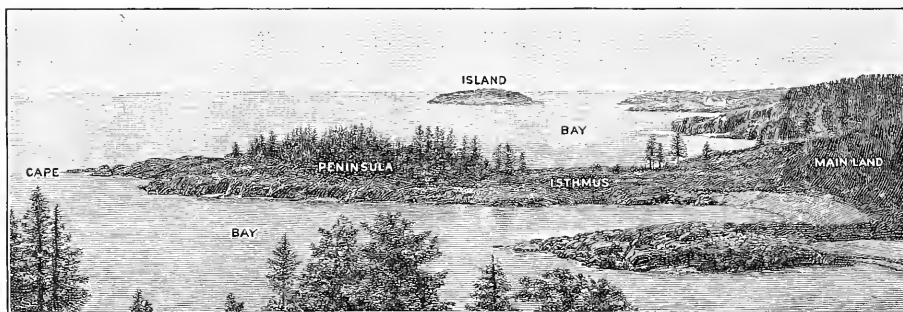
40. Shore Forms

We have read about a harbor. This is only one of many forms made where the land dips under the sea. The land close by the sea is the coast or shore.

Some coasts are high and rocky. Others are low and sandy. Some are nearly straight. Others are bent or broken, as in the picture.

A peninsula has water on nearly all sides. One side joins the mainland. The word "peninsula" means *almost an island*.

A neck of land may join a peninsula with the mainland. Any neck of land that joins two bodies of land is an isthmus. This word means *neck*. Does it not look like a neck in the picture below?



Shore forms where the land dips under the sea

A cape is a point of land that juts out into the water. Some capes are high and some are low.

Arms of water reach into the land. There are long arms and short arms. Some are so large that a swift ship cannot cross in a day.

These arms of the sea are called bays, gulfs or seas. A bay is like a gulf or sea.

An island has water on all sides. A boat can sail round it. Some of the largest cities in the world are on islands.

The word "strait" means *narrow*. A strait is a neck of water that joins two bodies of water.

Some straits are many miles wide. But they are *narrower* than the bodies of water they connect.

Helps: — What is a coast? What other name has it? What is a cape?

What names are given to arms of the sea? What is a bay?

How does an island differ from a peninsula? What does "peninsula" mean?

What is an isthmus? — a strait? How do they differ?

41. Factories

A factory is a building in which things are made. Some cities have many factories. Others have few. Let us see why.

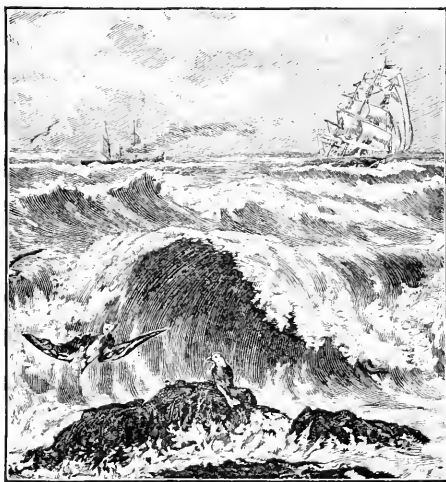
A factory needs power to run machines. We have read about water power and steam. Steam calls for heat, and this calls for fuel. There are many kinds of fuel, such as wood, coal, gas and oil.

Machines may also be run by electricity. It may be made by any power that will turn wheels.

A city near fuel saves the cost of hauling it far. Many factories are built in cities near coal mines. There are many also near gas wells and oil wells.

Long ago most factories were built near falls. Many are still built there, as the water power

wood, wool, iron, milk, wheat or other things. From them are made



Ships on the ocean

cloth, carpets, wagons, plows, butter or flour.

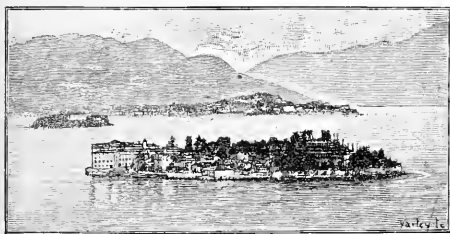
Flour mills are built near wheat fields and where there is power or fuel. Iron mills are built within reach of iron ore and fuel.

Helps: — What is a factory? Why does it need power? Name two kinds of power. What are needed to make steam?

Name some kinds of fuel. Why is it best for a city to be near a supply of fuel?

Why are some factories built near falls? Why may they also need steam?

What must a factory have besides power? Name some kinds of material used in factories, and tell what may be made from each.



An island in a lake

helps, even if other power is also used.

A factory must have goods to work with. It may use cotton,

42. Printing a Book

If you live in a city, perhaps you can visit a building where books are made. There is much to learn. You can see what people and machines are doing.

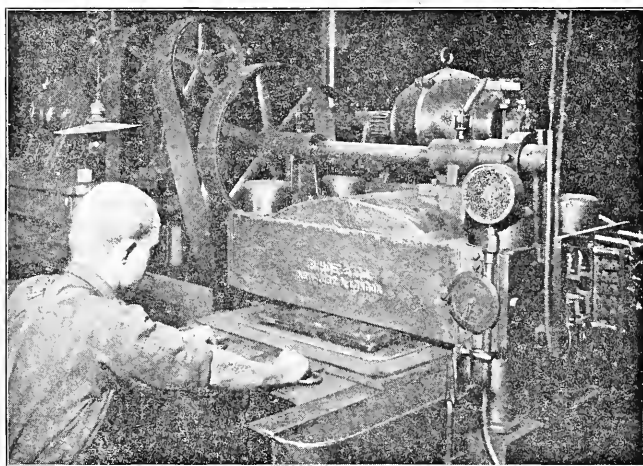
Look at this book. Tell which part is cloth, cardboard, paper, thread, glue, ink. All these things

over the ocean. Their home is in Norway. In winter snow covers the land. Then they go sliding on skis. They are long flat pieces of wood tied on the feet.

An artist cut this picture in wood. Look closely and you can see many dots and lines. With these he makes the eyes, the mouth, the fur coats.

It took several days to cut this little block of wood. The work is very costly. Such pictures are bright and clear and do not harm the eyes to look closely at them.

The words of this book were set in type. Each is a little piece of metal



Pressing pages of type into wax to make copper plates

must be ready before the book can be made.

Many people work on a book. Some raise the fiber to use in the cloth. Others weave the cloth, spin the thread, make the paper, the dye, the ink and the glue. Others cut down spruce trees to make pulp for cardboard.

Turn to the picture of the two boys on page 1. They live far

with the letter on one end. See how many pieces were used on a single page. Each piece in the whole book had to be lifted from its box and set in place.

But the book was not printed from type or woodcut. When these were set up together, they were pressed into hard wax. Then a thin copper plate was made on the wax, looking just like the type

and the picture. The type would wear out too quickly. The copper wears a long time. Hot metal is run on the back of the plate to make it stiff and strong. Each plate is a page.

Now the plates are put on a press. Ink rollers run over them. The ink sticks to the raised lines. Then great cylinders press clean paper upon the plates. They print the pages.

You ought to watch a press at work. It moves as if it were thinking.

Helps: — Of what is this book made? Name some of the kinds of work that must be done before a book can be printed.

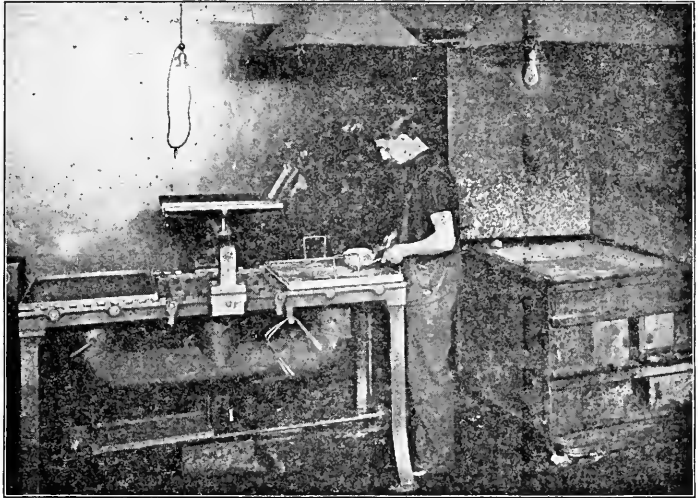
What is said about woodcuts? How are the plates for printing pages made? How was this book printed?

43. Binding a Book

The press does not print one small page at a time. It prints large sheets with many pages.

Now a machine folds the sheets.

Its rubber fingers lift just one sheet at a time, better than your fingers could. Little clasps come up and catch hold of the sheet. It is then pulled under blades, which fold it this way and that, till the pages read 1, 2, 3, 4, and so on. There must be no mistake in the order.



Pouring hot metal on the back of a copper plate

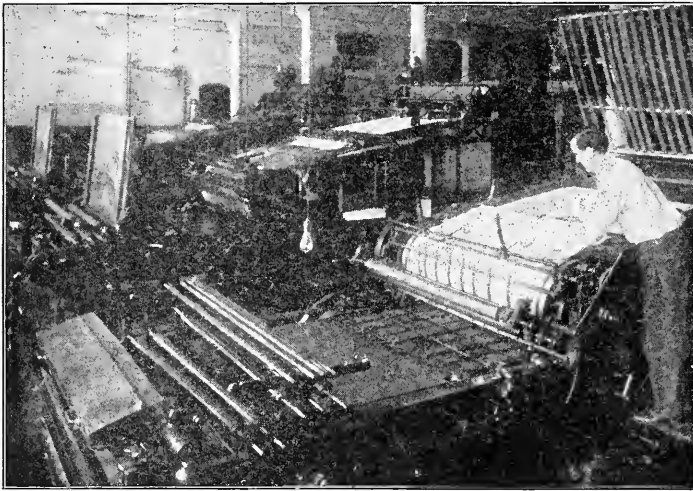
The folded sheets are now put in a long machine that gathers all the leaves of the book together. These are sewed with strong linen thread. Now they begin to take the form of books.

These are fed into a cutting machine. When each bundle comes out, the edges are cut on three sides.

Now let us see how the cover is made. A long roll of cloth is fed into a machine. A blade cuts the cloth the right size. Each piece is now covered with glue. Tubes suck up two pieces of cardboard and carry them over the cloth. In just the right place they are pressed down on the cloth.

a time, in a very strong press. It stamps the picture and the name of the book on the cloth.

But the work is not yet done. The covers are not on the books. Men now spread glue upon the outside leaves and press the covers on. Then they put the books in presses to hold them flat while they dry.



Cylinders press clean paper on the plates and print the pages

There are many other things to see in a printing house. Many hundred people work in the great building in which this geography was printed.

Helps : — Tell about the folding machine; about the machine that

The machine now turns over the edges of the cloth and presses them down. The glue holds everything in place.

Next the machine places the cover on a pile of others, where men can take them. All this work is done inside one machine. It is worth a long trip to see it.

Now the covers are put, one at

trims the edges. Tell how the cover of this book was made. What else was done after the cover was made?

44. The Picture on the Cover

A book calls for much thought and care. Even the little picture on the cover teaches a lesson.

The picture was pressed into the hard cover with a die. This must

be very strong to stand the pressure. It was cut in brass.

The lines of the die must be made thick, so as not to break under the press. They are not like the fine lines of woodcuts.

Now let us see what is in the picture on the cover. There are the three ships of Columbus. The ship on which he sailed was the *Santa Maria*. It has a cross on the sail. Behind are the *Pinta* and *Niña*.

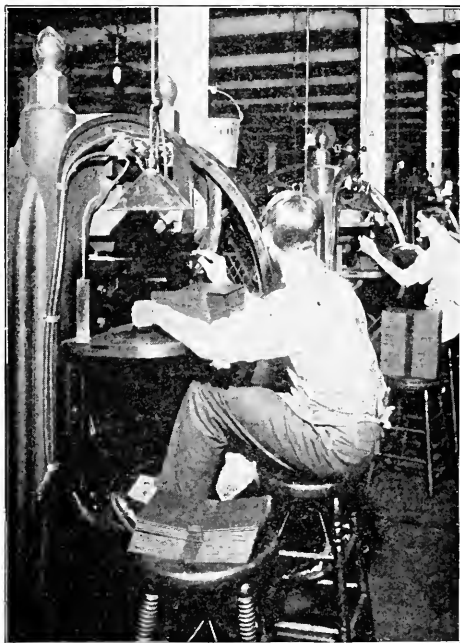
In the left half of the picture are four little shields. Two belong to our country. The castle and lions on one shield show a coat of arms of Spain. The lower left shield has an old coat of arms of Italy.

Now for the story of the picture. There is the Atlantic ocean, with the Old World and the New. The ships are crossing the ocean. A man from Italy, but sailing from Spain, reached America.

The picture shows the strange birds that led Columbus to think he was near land. Even when the sailors wished to kill him he would not turn back. He asked them to sail one day more, and land was found.

Notice that the sails are full. The ships are sailing west. The

wind blows from the east, behind the ships. This is the belt of trade winds that scared the sailors, as it blew them always away from home. They thought they could never sail back towards the east, against the wind, but they did.



Stamping book covers

The story of Columbus is the story of a hero. When you pick up this little book, look at the picture on the cover. It tells you to press on bravely in your work and you will succeed.

Helps: — Tell all you can about the picture on the cover.

45. Market for Goods

A factory must have a market for its goods. A lumber mill would be of little use if people did not use wood. Men build factories to make what people need.

Farms need wagons, plows and farm tools. Cities near by are likely to make these very things.

Most of the hats, shoes and clothing are sold in cities. Here is where most of them are made.

Mills need workmen that are very skillful.

Here, then, are some things that help mills and factories to grow: water power, cheap fuel, raw material and good markets. And we must not forget skillful workmen.

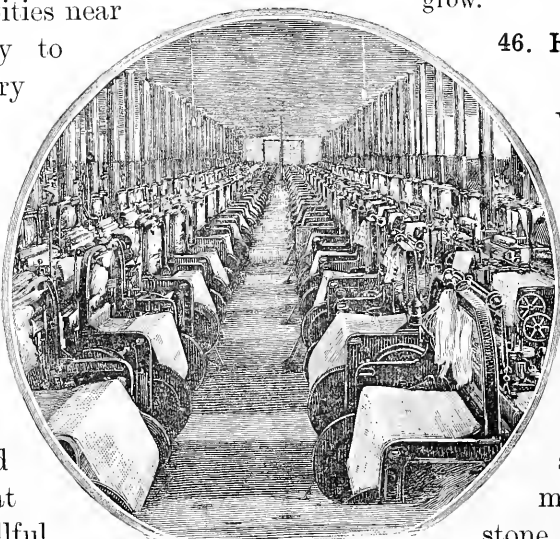
If you live in a city, try to find out what the factories make, and why. Find out where the raw goods come from. Find out where the new goods are sold. What railroads bring goods to your city?

Helps: — Why are factories built? Why must there be a market for the goods?

Name some things likely to be made in cities near farms. Why is much clothing made in cities?

Of what use are skillful workmen?

Name some things that help mills to grow.



Cloth weaving

46. How Bricks are Made

We know that it is unsafe to build houses of wood in large cities. If one house burns, others close to it are likely to burn also. Cities use mostly brick and stone.

A great city needs many bricks. They are made of clay. The clay is dug out of the ground.

The clay for bricks is put in mixing machines and wet. These machines turn the clay and mix it to a thick paste. This is put into molds, or rows of boxes just the size and shape of bricks. The clay is pressed hard in the molds.

The molds are lifted away and we see a row of bricks. They are too soft to use, so they are first set one side to dry. Now they are only wet clay. They will not be hard bricks till they are burned.

At last the bricks are dry enough to handle without breaking. Now they may be piled in great masses. It would require a long time to count them all.

Spaces are left for the hot air to move in among them, to dry them.

We may now build hot fires in the pile of bricks. The fires burn day after day till the bricks are dry and hard.

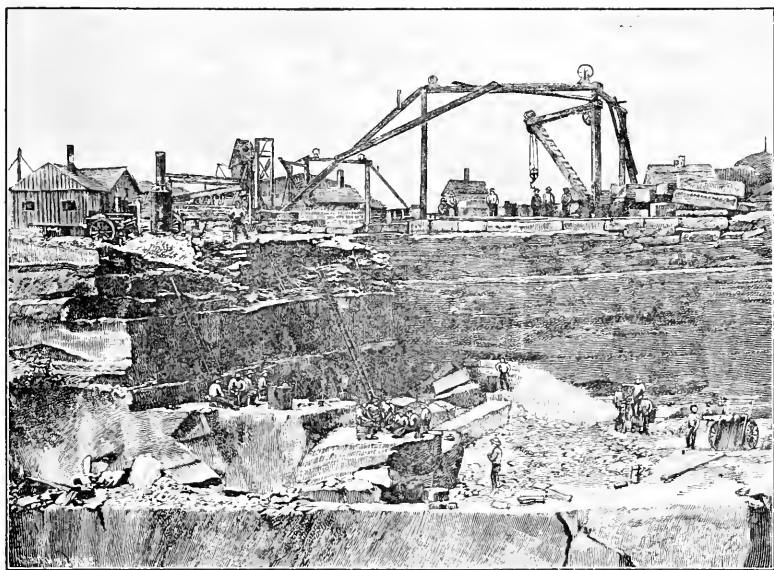
Bricks are of many colors. There are red, brown, yellow, white, green and blue. The color depends on the heat and also on the kind of clay used.

If bricks are used where you live, try to find out where they are made.

Helps : — Tell how bricks are made. Why are they burned ? Why must bricks be very strong ?

47. Building Stone

Stone for buildings comes from the ground. The place the stone



Taking sandstone from a quarry

comes from is a quarry. Here is a picture of one.

The inside of the earth is rock. There is rock under all soil. There is rock under all water. Often there is soil between the rock and the water.

Dig deep enough anywhere and you will find solid rock. In some

places it comes to the surface. It shows in ledges.

Stone or rock may be cut quite smooth with steel chisels. These are struck with hammers.

There are also machines that pound and smooth the rock. Some of it is also sawed into blocks and slabs. Machines also rub on the stone and polish it.

Marble takes a fine polish. Much of it is used inside of houses. It looks clean and pretty. The outside of some houses is also made of marble. This stone is often used for statues.

Granite also takes a good polish. This is perhaps the best of all kinds of building stone.

Sandstone is not so hard as granite. The grains are looser. Sandstone is pretty. It may be red, brown, gray or blue.

There are other kinds of rock used in houses. Slate is used on

roofs. The word "slate" means *chip*. The rock chips off in thin layers.

Men open quarries as near cities as they can. Of course you know why. Cheap stone helps cities to grow.

48. Trade of a Seaport

A ship is coming into port. Let us go aboard. A pilot is steering, so that it will not run aground. Sailors are scrubbing the decks. Men are tending the engines. Officers direct the work.

This ship has come far across the ocean.

Now come the men to unload. Wagons stand ready to haul

goods away. Some also go on cars and boats.

The tea goes to a grocer. The cloth and laces go to a dry-goods store. The spices go to a factory to be ground to powder. The knives and razors go to a hardware store.

Here are crates of toys for the toyshop. This gold is for a bank.



Girls in Japan picking tea that may come in a ship to our country

These wild animals are for a park. The gems are for the jeweler. And still there is more in the ship.

Now comes a ship with bales of cotton. It goes to mills that make cloth. The cotton comes from New Orleans.

Here is a ship from far-off Cuba. It brings sacks of brown sugar. This goes to a building where men will refine it to make it white.

This ship is from South America. It brings wool, sheepskins and hides of cattle. Mills get the wool. The skins and hides go to a tanner. He will tan them and make leather.

Here come great boats or barges with coal. The coal is for the mills, the stores and the homes.

And all the time river boats are coming down. They bring bricks and stone. They bring lumber from sawmills and wheat from farms.

Cars also are coming to the city. This early train brings milk and garden stuff. Here is a train of cattle, sheep and hogs from the West.

Cars and boats bring many people to the city. Some come to their daily work. Others come to visit and see the sights of the city. Many come to buy goods. Others come to go on ships to far-off lands.

This is a mere glimpse. Only a visit to the city can show the many kinds of work done there.

Helps:—If you were on a ship coming into port, what kinds of work might you see men doing?

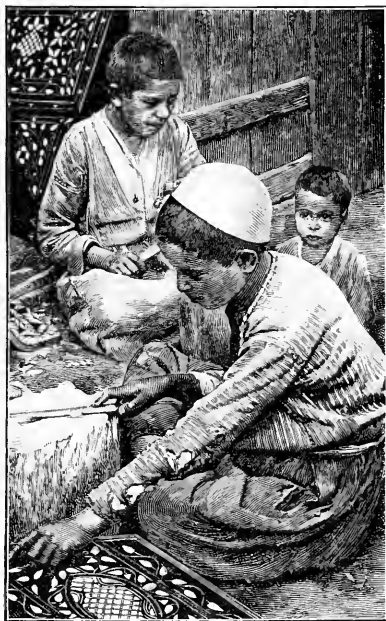
Name some goods that come into ports.

Can you tell where any of them come from? Where may they be sent from the ships?

Why do cities need much coal?

Name some things that would be likely to reach the cities by train.

Why do morning and evening trains carry many people to and from cities?



Boys far away in Asia, putting pieces of shell in wood to look like flowers. These may come in a ship to our country

The rules tell how many may play on a side, where the bases are, when a player may run and when he is put out. We could not play ball without rules.

There are rules in hide and seek, marbles, tag or catch, and puss in the corner. It is fun to play when all obey the rules.

Every family has rules. There is an hour for dinner. You know when you are to go to bed and when you must get up. You know that rough games must not be played in the house.

Every school has rules. One rule tells when school shall begin. Another tells at what hour it closes. Rules tell what you shall study each year. Is there a rule telling to which school you must go, and how many months each year?

We can make rules for our games. Parents make rules for the family. The teacher and school trustees make some of the rules for schools. In cities boards of education make rules for the schools.

Good rules help us to play, work and live in the best way. They tell

us what our rights are, and also what rights others have.

People vote to make rules or laws that all must obey. They make laws to punish for stealing or setting fire to a house.

We obey a law when we pay taxes. We obey a law when we



Boys on an island far across the Pacific ocean. They are playing ankle ball. They kick the ball with their ankles and keep it going, as we play ball with our hands

keep to the right in driving or when we put a stamp on a letter.

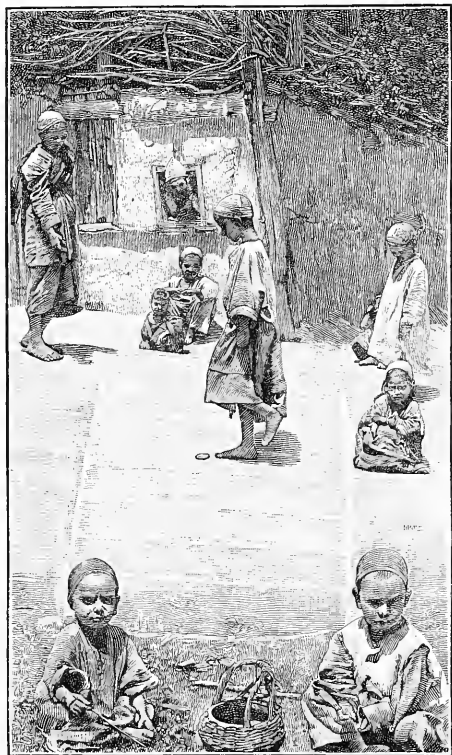
Helps: — What game do you like best? What are some of its rules? Can any game be played without rules?

Of what use are rules in the home? Would you be glad to have no dinner hour? If there were no rules, when would school begin? When would you have a vacation?

What is a law? Who make it? Who must obey it? Without laws, who would build roads?

51. Taxes and their Uses

All the people wish to have good schools. All wish to have good roads. They need police to keep order in the city. They need firemen to protect their homes from fire.



These little folks live far away in the highest part of Asia, but they play hopscotch with about the same rules we have here

The people also need judges. There must be jails or prisons for men who commit crimes.

Cities make homes for very poor people and take care of them. They

look after the blind and the deaf and dumb.

There are hospitals for the sick and wounded. People who are too poor to pay can receive just as good care and food as the rich.

We must not forget that the city makes parks where we can go to play games and breathe fresh air.

It takes a great deal of money to pay the bills for a city. People vote to pay taxes to raise the money for paying such bills. A person who owns very little pays a small tax. A person who owns more pays a larger tax. This is fair.

Helps: — What bills must be paid for schools?

What bills must the city pay to protect the homes against fires? If a man's house does not catch fire, ought he to pay part of these bills?

Why are all people glad to pay taxes for the poor, the blind and the feeble-minded? Why do the deaf and dumb need schools of their own?

Find out all you can about the work of officers that serve in the city or town you live in. Do the people elect them? What pay do they receive? How long do they serve? What are their duties?

Who have to pay taxes? Find out how often taxes must be paid? To whom are taxes paid?

WONDERS OF OUR COUNTRY

TYPE STUDIES

52. Yellowstone Park¹

The western part of our country has high mountains. One chain is called the Rocky mountains. It has many ranges and groups of rocky peaks.

In this chain lies Yellowstone park. It is not like a city park, with little beds of flowers, cages for birds, lily ponds, walks and drives. It was not made by man, but is natural. It is a large tract of wild country.

Here are seen huge peaks with many a crag. Here also are deep and narrow valleys or gorges worn in the rock. In the West such gorges are called *canyons*.

A large lake and many small ones spread between the ranges. Rivers rush down the

slopes and tumble over cliffs. This park belongs to the whole nation. It is to be saved, for all time to come, as a land of wonders.

Here wild animals make their home, free from the hunter's gun. There are deer, bears and buffaloes, as well as many others.

This park is famous for its *geysers* and *hot springs*.

Geysers are spouting springs of hot water. In places the hot water shoots out of the ground far into the air. It often rises as high as a very tall tree. Steam escapes with a roar. The ground trembles.

In some geysers the water falls back

into basins, to be tossed forth again. In others it is blown away in a fine spray. A great geyser is a grand sight.



A geyser spouting in Yellowstone park, in our country

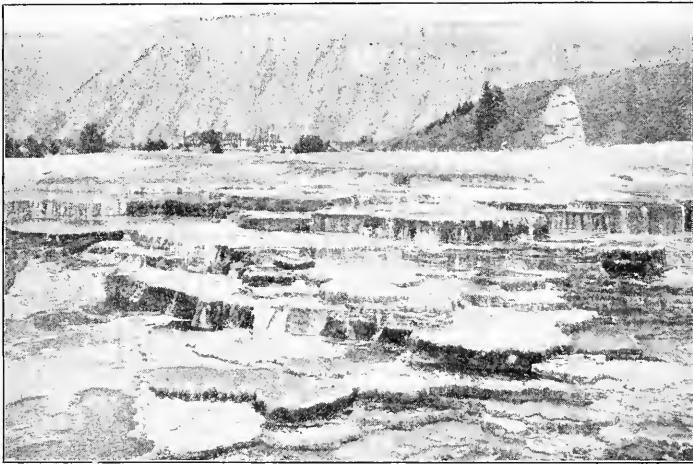
¹TO TEACHERS: The object of these type studies is twofold: the places are of deep interest; the text calls forth many geographic terms,—the alphabet of geography.

There are basins that do not spout. The hot water rises in them and forms pools or hot springs. These often overflow.

You have seen sugar dissolve in water. Hot water dissolves lime and other rock. As the water cools, the rock settles out of the water

How does this park differ from a city park? Name some of the objects you might see in Yellowstone park. Why do many wild animals make their home here? Name some of the animals that may be seen in this park.

Tell what you can about geysers. Tell about the hot springs. What do the pictures show about each?



Mammoth hot springs in Yellowstone park

and becomes hard again. Thus hot springs make the rims of their basins. Some make terraces of stone, as shown in the picture.

This park is so large it takes several days to go through it. Then a person sees only a small part of it.

Helps: — Where is Yellowstone park? See page 111. Can you think where the Rocky mountains got their name?

53. Mississippi River

The upper end of a river is its *source*. It may be a *spring*, or water coming up out of the ground. It may be a lake or it may be melting ice or snow.

A river flows on a *bed*. This is the land under it. On the two sides of a river are its *banks*. They are the sides of the trough in which the water flows.

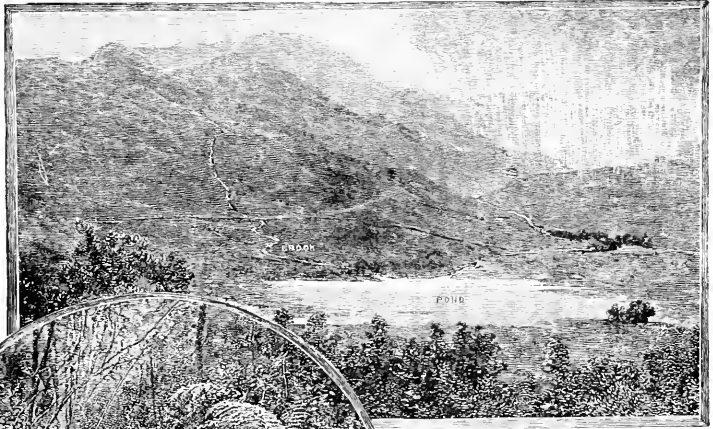
In naming the banks of a river, face *down the stream*. On the right is the *right bank*.

If a river bed is very steep, the water may fall over as a *cascade* or a *cataract*. A cascade is a small waterfall. A cataract is large.

Some parts of river beds slope so that the water flows swiftly.

The swift parts of rivers are *rapids*. Many flow so swiftly that boats cannot pass them. Canals, or deep channels, may be dug past such swift waters. The boats then

Rivers bring down mud. Some form mud islands at their mouths.

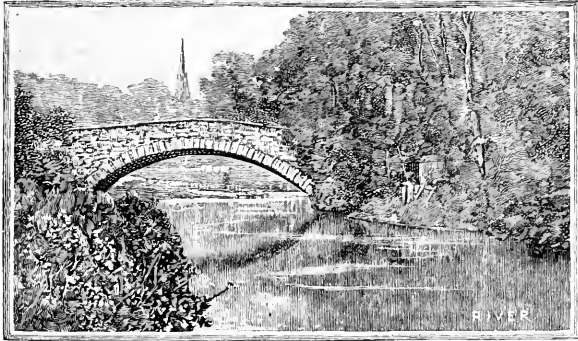
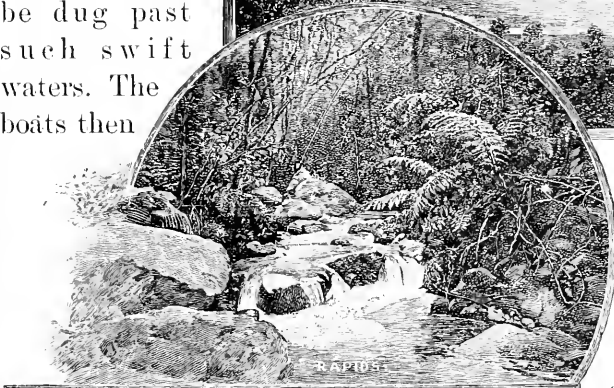


Find the brook, pond, rapids, river

Such mud islands are *deltas*.

Often several rivers run together to form one river. This is the *main* or *trunk* stream. The trunk has other rivers for *branches*.

A main river with all its branches is a *river system*. All the land that sends water to a system is its *basin*, or river valley.



go through the canals. The lower end of a river is its *mouth*. One river may flow into another, or it may flow into a lake or the salt sea.

Helps: — Tell what each of these words means: river source, bed, banks, spring, cascade, cataract, rapids, delta, branch, river system, river basin.

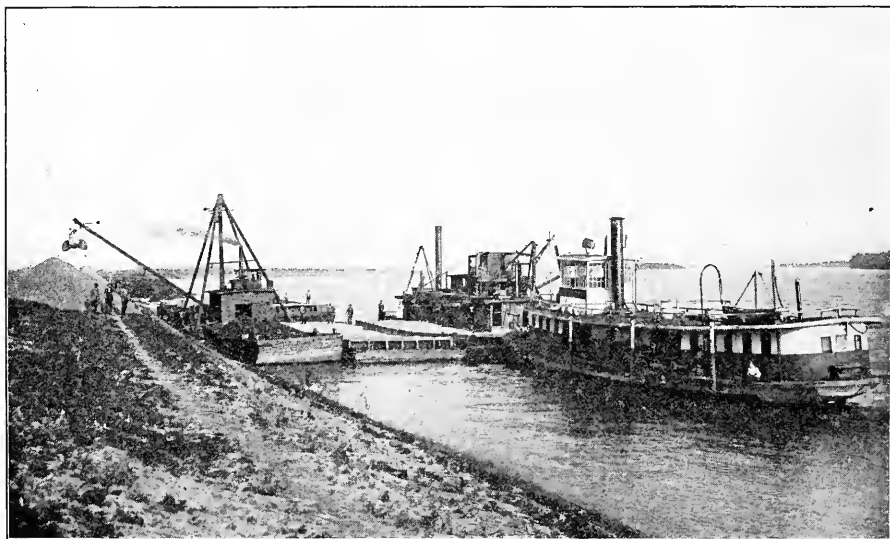
Now we can read about a great river in our own country. Long ago the Indians named it the *Mississippi*. This means the *Father of Waters*.

This long river starts from wet lands where there are many lakes.

third of all our country. In it are the best farming lands in the world.

The upper part of the great river has rapids and falls. Boats cannot pass them. But the falls turn many wheels in mills.

Most of the river is deep enough



Unloading barges on the bank of the Ohio river

The source is a small lake, or perhaps a tiny stream flowing into it.

This source is not far from the north side of our country. The mouth of the river is at the great gulf of Mexico. It is an arm of the ocean, on the south side of our country.

The basin or valley of this river is very large. It covers about one

for large boats. Many deep branches also join the trunk stream. They bring water to make the river larger as it flows down. In places the river is a mile wide.

When heavy rains fall and snow melts, this river rises over parts of the low lands near it. In places high banks, or *levees*, have been built to keep the river in its bed.

The longest branch of this river is the Missouri river. The word "Missouri" means *muddy water*. The Indians gave it this name.

The source of the Missouri is in the Rocky mountains. From this

this river? Where is its mouth? What is said about the size of its basin?

What is said about the depth and width of the Mississippi river?

What is a levee? When does the Mississippi overflow its banks? Tell what you can about the Missouri river.



Relief map of the United States

source to the mouth of the Mississippi, the water flows over 4000 miles. This is the longest river in the world. We may call it the Missouri-Mississippi. Later we shall read more about it.

The longest branch from the east is the Ohio river. It flows from the Eastern highland.

Helps: — What does the name "Mississippi" mean? Where is the source of

54. Great Lakes

Along the north or northeast border of our country lies a row of valleys partly filled with water. They are very large and cover many miles. The water is fresh.

These bodies of water are lakes. We call them the *Great Lakes*. There are five of them.

The Great Lakes hold about half the fresh water on the earth. Large

ships steam about over them and great cities are growing on their shores.

These lakes form a chain, with each lake for a link. Rivers and canals join the lakes, and ships can thus go from one to another.

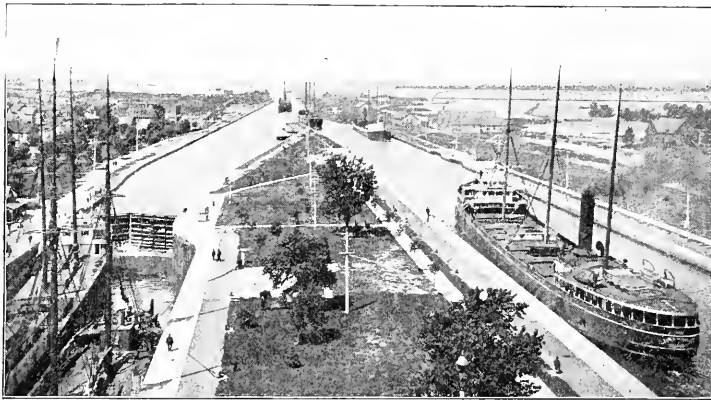
Lake Superior is the largest of the lakes. In fact the only fresh

kinds can pass to lake Huron. From this lake they can go into lake Michigan and reach the city of Chicago.

Boats from lake Huron can also go down a stream to lake Erie. Then in a canal they can go to lake Ontario. From the latter flows a long river to the ocean. It

is the St. Lawrence river.

Thus we see that each of the five lakes has an *outlet*. You can see why this name is given. It lets out water from the lake. A stream flowing into a lake or pond is an



Ship canal past the rapids of St. Marys river, the outlet of lake Superior. Find the long bridge over the river

lake larger than this in all the world is Victoria, in Africa.

St. Marys river flows from lake Superior. This river flows swiftly over part of its bed. This part is so sloping that the river here forms rapids.

Two large ship canals are built along the banks of the St. Marys river. These carry ships past the rapids. In this way boats of all

inlet. Some lakes have many inlets.

Most lakes have but one outlet. It is at the *foot* or *lower end* of the lake. We speak of the place of the main inlet as the *head* of the lake.

The five lakes are not only large but they are also very deep. The bottoms of all but one are below the level of the sea or ocean.

Some lakes are salt. Let us see why. There is salt in nearly all the soil on the earth, but in most places there is very little. Rain water creeps in the soil and takes up some of the salt. In time it reaches brooks and rivers. There is not enough salt to taste.

After a river has been flowing for a long time into a lake *that has no outlet*, it may carry in enough salt to make a salt lake. As the water of the lake rises in the form of vapor, the salt is left in the lake.

Salt lakes are found in lands of light rains. There is not enough rain to fill the hollows and make them overflow to the sea. If they were to overflow, the salt would run out with the water and the lakes would then be fresh.

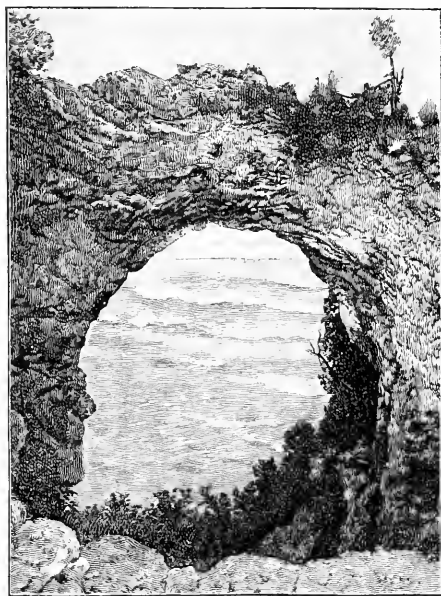
Now we see why the Great Lakes are fresh water. Each lake has a good outlet. The tiny bit of salt that runs in small rivers into the lakes keeps on to the ocean.

We shall study a great deal about these lakes. Near their shores are mines of iron and copper, forests, and fields of grain.

Helps : — What is a lake ? What is a pond ? Where are the Great Lakes ? What is a chain of lakes ?

How can ships go from lake to lake ? Which is the largest of the Great Lakes ? Name the largest fresh lake in the world.

How much water do the Great Lakes hold ? How can ships get out of lake Superior ? Into what lake do they then



Arch rock on the strait between lakes Huron and Michigan

sail ? On what lake can they reach Chicago ? How can a boat from lake Huron reach lake Ontario ? To what great body of salt water does lake Ontario send a river ?

What is the outlet of a lake ? What is an inlet ? Where is the foot of a lake ? Where is its head ?

Tell why some lakes are salt. Why are there no salt lakes in rainy lands ? Tell why the Great Lakes are fresh.

55. Niagara Falls

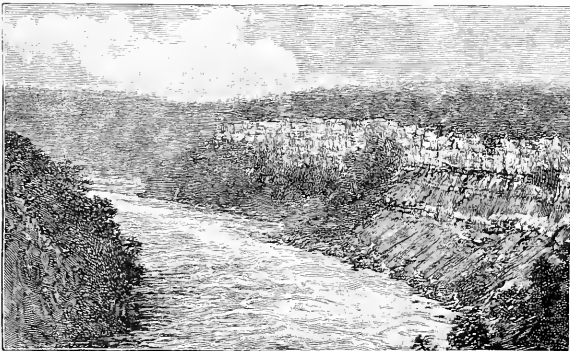
The outlet of lake Erie is Niagara river. It flows to lake Ontario.

This river is noted for its great falls. They are one of the wonders of the world.

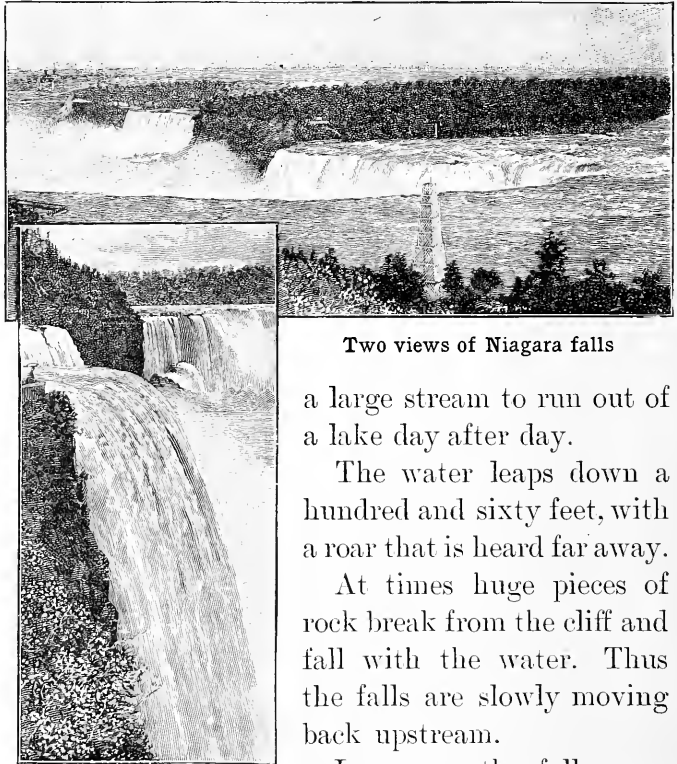
The river starts as a smooth stream. In a few miles it changes to rapids. Then it leaps down into a deep gorge, from a high cliff. An island divides the falls into two parts.

The falls are three fourths of a mile wide. They show the size of the river. This is

several miles farther north. They fell over the edge of a long bluff.



Niagara gorge below the falls



Two views of Niagara falls

a large stream to run out of a lake day after day.

The water leaps down a hundred and sixty feet, with a roar that is heard far away.

At times huge pieces of rock break from the cliff and fall with the water. Thus the falls are slowly moving back upstream.

Long ago the falls were Step by step the rock has broken under the falls and thus the river has made a long deep valley or gorge.

On the side of the gorge you can see the layers of rock. The river runs far below.

After the river tumbles into the gorge, the water runs smoothly for a while.

Then it rushes and foams in rapids. Below, it runs smoothly again. Thus it flows to lake Ontario.

No one knows how old the falls are. The rock breaks away very slowly. The work must have gone on for thousands of years.

People from many parts of the world visit these great falls. They like to watch the great wall of water tumbling into the deep gorge. They like to hear the roar and see the clouds of mist rise. They like also to think of the mighty work done by the river, in cutting the great gorge.

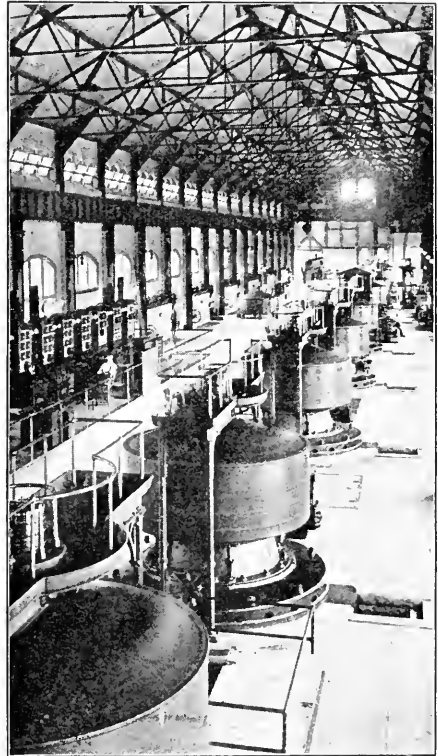
This is one of the rivers that give power to mills. Part of the water above the falls is led into great tubes where it strikes wheels. These turn swiftly and give the power.

The wheels turn electric machines. They make electricity. This is led far away on wires to many cities and towns. There it is used to run cars, light houses, run mills, and do other kinds of work. It would take thousands of horses to do as much work as the water pouring down the long tubes.

After the water turns the wheels it runs back into the river below the falls.

Helps: — Where is Niagara river? Between what lakes does it flow? Which of these lakes is the higher?

How wide are the falls? How high are they? How do the falls move very



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Machines for making electricity at Niagara falls. They are run by water power

slowly upstream? How was the long gorge made?

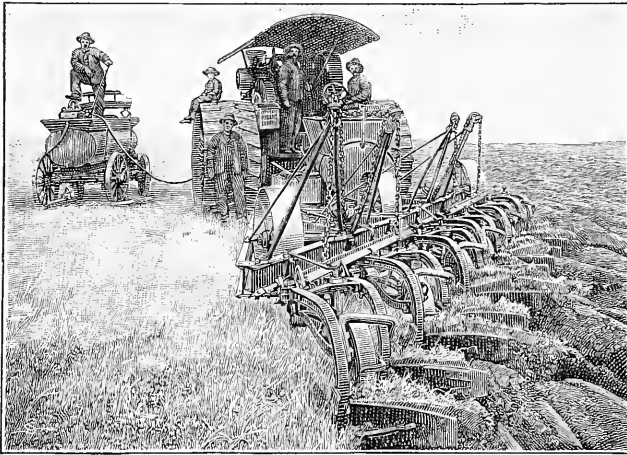
What becomes of the river below the falls? What is said about the age of these falls? Why do people visit them?

What use is made of part of the water of Niagara river?

56. The Prairies

West and southwest of the Great Lakes are rich farm lands. They are the best corn and wheat lands in the world. They also have the most cattle.

These rich lands are called *prairies*. The word means *meadows*. They are fertile plains.



Where the Indian hunted deer the white man tills the soil. This picture shows a steam gang plow turning over soil in the prairies

Page 22 shows a harvest of wheat on the prairies.

Long ago no white men lived in the prairies. No wheat grew here and not a cow, sheep, horse or hen was to be seen. But there were many deer, buffaloes and wild turkeys.

Tribes of Indians had villages in the rich lands. The red men

hunted while the squaws planted corn.

Trees grew along the rivers and in some other places. But most of the area was a sea of grass. Fires often swept over the fields. The animals fled for their lives. Then when the green grass grew, they came back to feed.

Now all is changed. The deer have been killed or driven away. Only a few buffaloes are alive and these are kept in parks. In the great grassy area are now many farms. Towns and cities have taken the place of Indian villages.

Where the red man hunted, the white man tends cattle, sheep and horses. The In-

dian runner used to carry news from tribe to tribe. Now the news flashes along wires.

All over the prairies, trains of cars gather up products where long ago the prairie fires swept. Such is the change made by the white man. And people are still living, who have seen most of this great change in the prairies.

Helps: — Where are the prairies? Name some of the products.

Tell about the prairies before the coming of the white man. Tell what changes have taken place.

57. Mammoth Cave and Natural Bridge

We have read that water can dissolve the rock called limestone. Of course it does this work very slowly.

In places there are thick beds of limestone in the ground. Water may slowly take up this rock and run away with it. In this way the water may make great caves.

Mammoth cave is one of the most noted. "Mammoth" means *very large*.

The map on page 111 shows where this cave is. It runs for miles in the ground. Some parts widen into great rooms.

In places forms like icicles hang down from the roof. Others rise

up from the floors. The dripping water formed them, by leaving lime above and below.

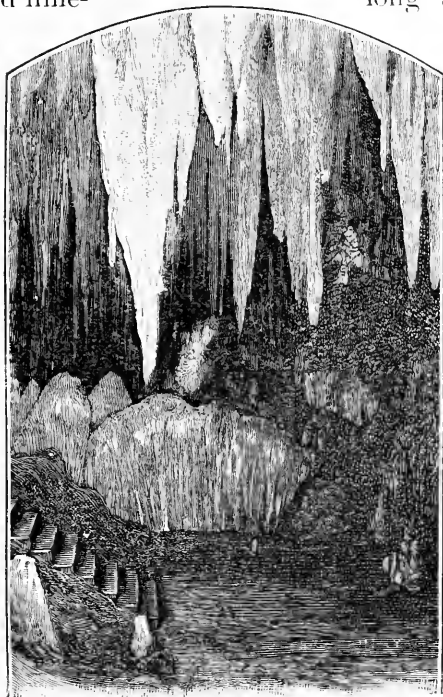
Blind fish are found in water in the great cave. Even if they had eyes they could not see, for the cave is very dark. Perhaps the first fish there had eyes. But

long ages passed. The eyes were not used. As little fish grew and died, the eyes lost more and more of their sight, till at last only scars showed where eyes used to be.

Our country has several large caves. Some are called *caverns*. The caverns of Luray (*page 111*) are noted for both size and beauty.

In some places the roofs of caves have fallen. If

parts of the roof stand, they may form stone arches. One of these is known as the Natural bridge. A small stream flows under it, along what was once the floor of a cave.



Caverns of Luray

Helps: — How are some caves formed? Tell what you can about Mammoth cave.

Give another name for cave. In what part of our country are the caverns of Luray? For what are they noted? Tell how the Natural bridge was formed.

58. Grand Canyon

We have read that in the West a deep gorge is a *canyon*. There are many deep canyons in our country. They were worn by rivers.

There are many high plains between the Rocky mountains and the Sierra Nevada. These plains are rough and many ranges rise in them. Such high plains are called *plateaus*.

Rivers wear deep canyons in the plateaus. Some have been worn by the Colorado river. Here we find the *Grand canyon*, the most noted in the world.

In places this canyon is about a mile deep. Its sides are rocks of many colors. There are gray, brown, red, yellow and purple. You should see them at sunrise or sunset. First one color and then another catches the light. Parts of the walls of this canyon are made of marble.

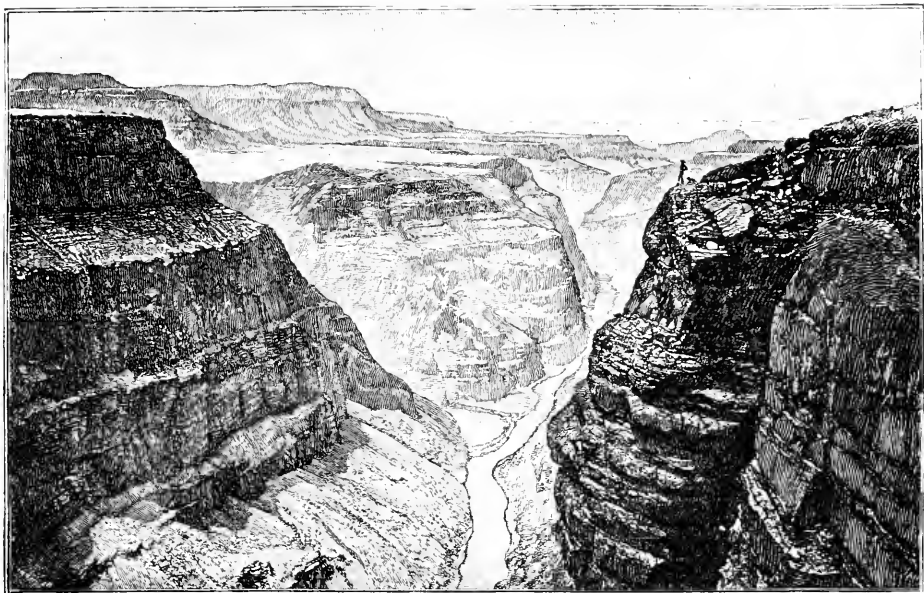
Branches of the river have also cut deep canyons. In some of these are found ruins of strange homes. They are in caves in the cliffs.



NATURAL BRIDGE VA

All but this part of a cave roof fell

The Indians who made these homes were not here when the white men came. We call them *Cliff-dwellers*. We do not know

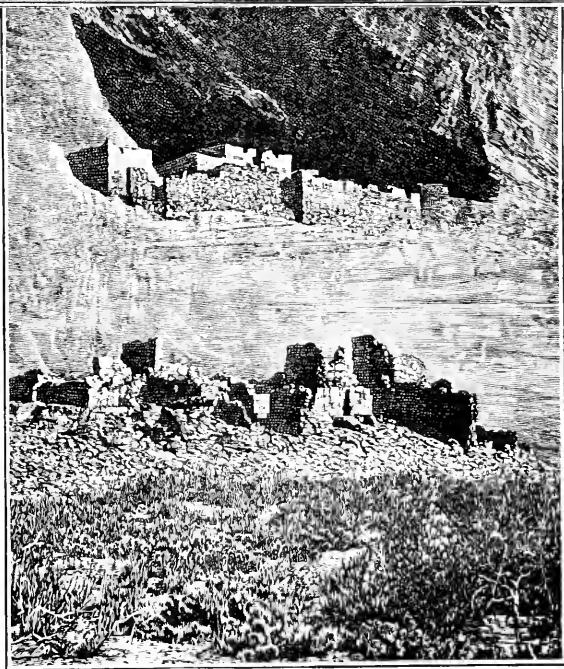


Grand canyon of the Colorado river and homes of the old Cliff-dwellers

where they went. Perhaps they were all killed by other warlike Indians of the plateaus.

The homes were built in caves in the cliffs to be safe from attack. In some of the caves are found bones of the people and some of their cloth and clay dishes.

Helps: — Tell about the Grand canyon. *See page 111.* Tell about the Cliff-dwellers.



59. Yosemite and the Big Trees

The word "nevada" means *snowy*. "Sierra" means a *range looking like sawteeth*.

Far west of the Rocky mountains is a high range called the *Sierra*

In places cliffs rise half a mile into the air.

Pretty streams flow to the edge of the deep valley and tumble over. In the wet months one small river falls a fourth of a mile and then



Yosemite valley, California, on the west slope of the Sierra Nevada

Nevada. Can you think why the name was given to it?

This range is not far from the shore of the Pacific ocean. It is famous for gold. *See page 111.*

On the west slope of this range lies the Yosemite valley. It is very deep and its sides are very steep.

winds down the valley. In summer it often dries up.

Many people visit this valley to see the grand sights.

Heavy rains reach the west slope of the Sierra. They come in winds from the ocean. This slope has large forests.

Here are found the famous *big trees*. Some are over a thousand years old,—perhaps three thousand. They were growing before a white man ever saw the land we live in. They had stood for long ages before Columbus saw America.

Some of these trees are over three hundred feet high. They are the largest trees known in the world. The log cabin looks small at the foot of the tree in the picture.

Helps:—What does the name “Sierra Nevada” mean? Where is this high range?

Where is the Yosemite valley?

Tell all you can about this deep valley.

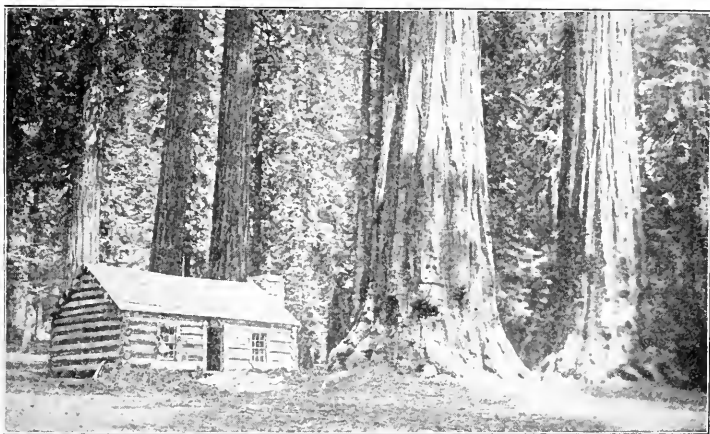
On which slope of the Sierra do heavy rains fall? Why? Why does this slope have forests? Tell about the big trees.

60. Underground Wonders

Coal is found in layers of rocks. In some places it is near the surface. In other places deep mines are dug to reach it.

Coal is made of plants that grew long ages ago. Most of the plants were ferns and mosses. They were as large as trees and grew in wet lands or swamps.

Year after year the plants grew and died in shallow water. They made thick beds of dead plants. At times rivers buried them under thick layers of mud or sand.

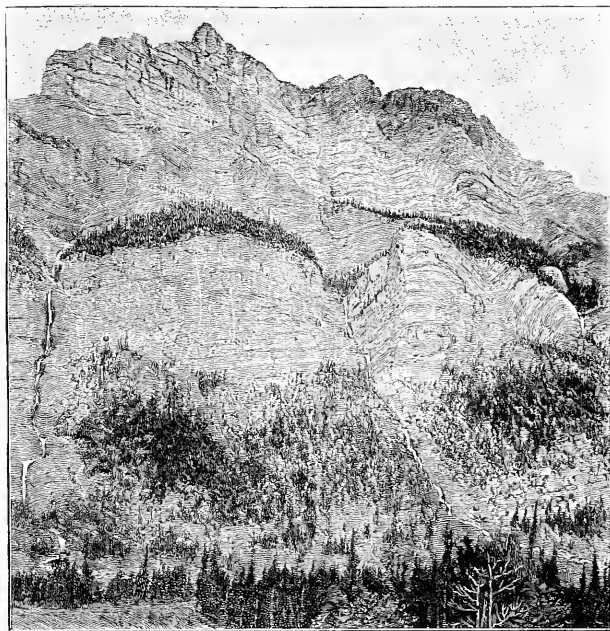


Some of the famous big trees of California

Then more plants grew. As they died they made another bed. More mud and sand came down and buried them.

After long ages the mud or clay and the sand turned to stone. The clay became slate. The sand became sandstone. In the stone the beds of plants slowly grew hard and made coal.

Some coal beds are only a few inches thick. Others are many feet thick. The forms of ferns and mosses are still seen in coal and in slate. The picture shows some of the old ferns that made coal.



Some of the beds of rock have been bent. Parts have been worn away by rain and rivers

Some of the beds of rock and coal have been bent up to form hills and mountains. In places they are deeply worn by rain and rivers, so that the coal is at or near the surface.

Our country has very rich coal mines. Coal is found in the

highlands both in the East and in the West. The best mines are in the East. Here are found both soft coal and hard coal.

There are also coal mines in the prairies. Soft coal comes from them.

Let us visit a hard-coal mine. It is in the Eastern highland of our country. Here are the best mines of hard coal in the world.

A great hole or shaft has been sunk hundreds of feet in the ground. This hole is to lower men to work, hoist out coal, pump out water and pump in air.

Such a mine is like any deep well. Water may run into it from cracks or seams in the rocks and also from

the loose ground. Pumps must be kept going, or the mine will fill with water.

Men drill holes in the hard coal and blast it with powder. This makes smoke that is bad to breathe. Foul gases also come out of the coal. Some catch fire, explode,

and kill miners. Another gas often chokes miners to death.

Now do you see why engines keep pumping air into mines? It is to blow out the bad gases and give the miners fresh air to breathe.

Let us go down into the mine.

Put on this rubber coat, for the mine is a damp one. Water drips in it. And put on this cap with a little light on it, for we shall go into some dark places. Round the light is a fine wire screen. Gases cannot catch on fire through such a screen. This is

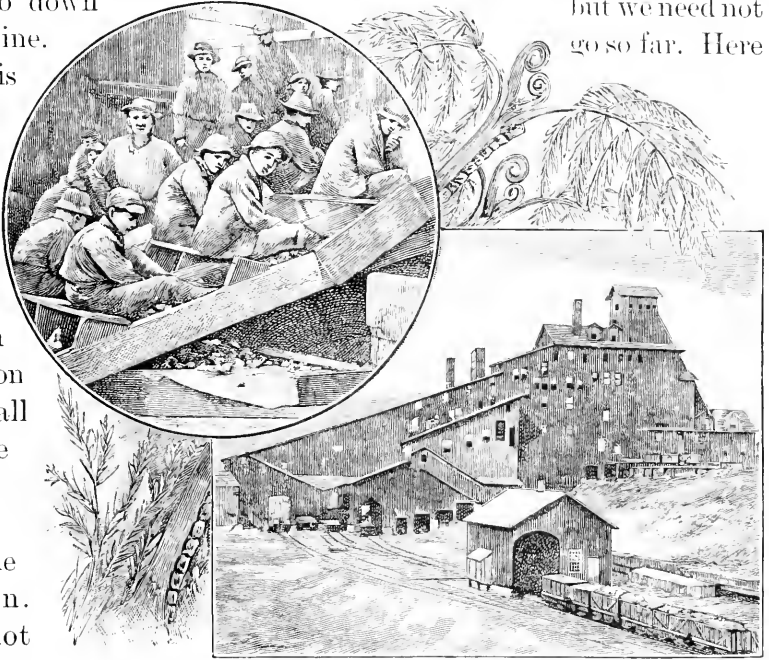
a safety lamp. It is very useful.

Now step into the elevator. Down we go nearly a quarter of a mile, — down, down, down.

Here we are at the bottom. We step out into a long tunnel. It has electric lights.

Off the track, please! Here comes a mule hauling a car of coal. This is ready to be hoisted out of the mine.

Let us go in. We could follow the tunnels for miles and miles, but we need not go so far. Here



In this building the coal is sorted to sizes and loaded on cars. The boys above are picking slate out of the coal as it runs down the chutes. The plants shown above are coal ferns

is a little side tunnel where men are at work. They are drilling a hole. In this they will put powder and a piece of fuse. You know what the fuse of a firecracker is.

Now it is ready. Touch off the fuse. "Fire!" shouts a man and we

all run back. *Bang!* goes the blast, and we hear the coal rattle down. Enough has fallen to keep two men busy for the rest of the day. They will load it on the cars, and mules will drag it away.

Here is a small boy sitting by a large door. "What are you here for, little man? How long have you been here?"

"I come every morning," he says, "and stay all day. My work is to stay here all alone in the dark and open and close this door for the mule cars. I close it to turn fresh air into tunnels where men are working."

We go on, but for days we think of the little hero sitting in the dark, while other children play games out in the sunshine. Think of him when you warm your hands before a bright coal fire. Think also of the men who work hard to get out the coal.

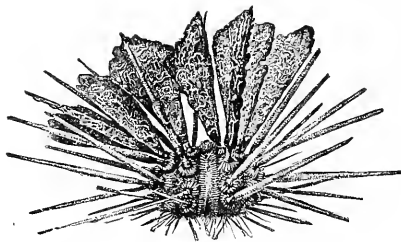
Now we will go out of the mine and see what becomes of the coal.

Do you see the boys in the picture on page 81? They are picking slate out of coal as it runs by them. The hard coal comes up in lumps. These are broken up and the coal sorted to sizes. The slate will not burn, and must be taken out. Then the coal runs into cars and is shipped away.

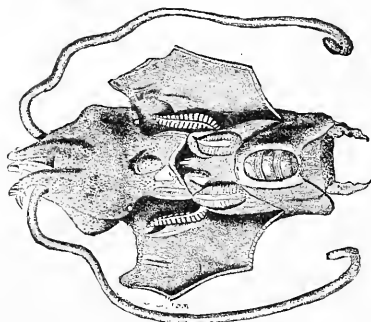
Helps: — What is coal made of? Tell how it is formed in the ground. What kinds of stone often form beds above and below coal?

What is said about the coal mines of our country? What two kinds of coal are named?

Tell all you can about the visit to the coal mine. What is done with the coal after it comes from the mine? Have you ever seen slate?



A pretty sea urchin



Odd life from sea bottom

61. Sea Wonders

There are wonders in the sea as well as on the land. Strange fish and pretty corals and sponges grow in the sea. You can see three of them on page 41. Here are others.

Coral grows on the sea bottom. It grows best in clear water in the warm parts of the sea.

The coral you have seen is hard. But when growing it has tiny soft spots. They are living bodies. Each one has a mouth and a stomach. The food comes from the salt sea water.

The soft part is a polyp. The hard part is coral.

Some coral grows like trees. The polyp sends out buds that form branches. The polyps on the branches bud again, and thus a coral forest grows. The soft polyps die and are washed away. The or hard part, is left standing.

Many polyps work to make the little pieces of coral you see. Each polyp looks like a wee flower. It may be red, pink, yellow or brown.

Polyps lay eggs in the water and they float about. If they reach a hard bottom in clear warm water, they start a new coral forest.

Waves break off pieces of coral and wash them on top of the rest.

Each storm sends up more, till the bank is above the water. In this way coral islands grow in the sea.

The waves soon grind some of the coral to dust and thus make soil. Sea plants float to the new shore. They decay and mix with the coral soil.

Seeds also drift to the new land. Plants soon spring up. Now the coral island is ready for man to come and make it his home.

Sponges also are hard parts of little creatures that grow at the bottom of the sea. When a sponge is wet it feels soft.

Many people gain a living from the sea. Some sail on ships. Others catch fish. Others gather corals and sponges.

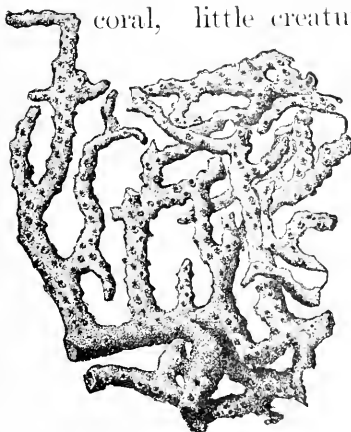
Helps: — Where does coral grow? What is a polyp? Tell all you can

about the growth of coral.

Tell how a coral island may form in the sea. Where do sponges grow?



Sponge from
sea bottom



Coral from the sea bottom

GIRLS AND BOYS OF OTHER LANDS

TYPE STUDIES

62. The Black People¹

The home of the black people is far away. It lies to the south-east, across the ocean. We call it Africa.

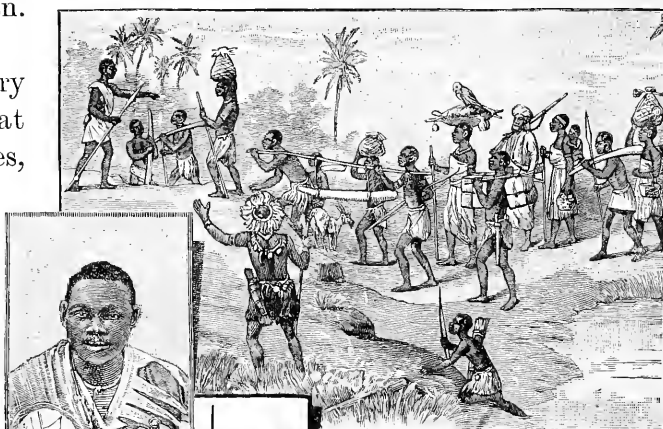
This land is very large. It has great deserts, or dry places, and also long rivers, grassy plains and wide forests. The largest river, near the middle of Africa, is the Kongo. In its great valley live many of the black people.

See page 115.

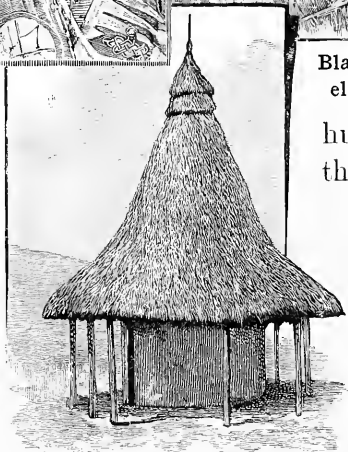
Here is a black boy. His face shines like coal and his hair is woolly. The girls and boys that play

with him have the same color and the same kind of hair.

Let us watch them make a play



Black people of Africa carrying elephant's tusks to the coast



The play hut

hut. It will be just like the one they sleep in.

They break off strong reeds and set them up in a circle in the ground. Then they tie others on top to make a roof. They have no string, but use long grasses.

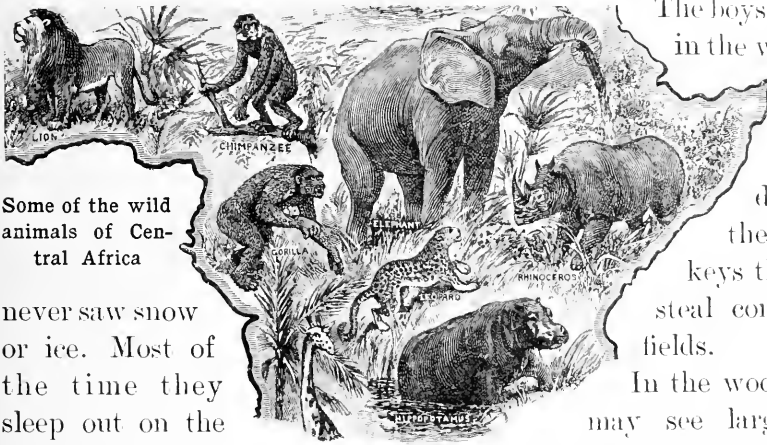
Now the boys tie bunches of grass all over the reeds and the hut is done. A place is left for a door but there is no

¹ TO TEACHERS : These lessons are type studies of the races, and also aim to picture the relation of man to climate and other strong physical conditions.

This is not the time for a complete study of the continents, but as each group of people is studied, the teacher can locate it upon one of the maps at the end of this book.

window. The hut has no chimney, for the fire is built outdoors. This is a hot land. The girls and boys

roar like lions and chirp like birds. Now they run off to play a game of ball.



Some of the wild animals of Central Africa

never saw snow or ice. Most of the time they sleep out on the ground.

Now they are making little things for the hut. The girls are weaving a mat out of grass for a bed. The boys are shaping dishes of wet clay. They will bake the clay in a fire and make it hard.

The hut is ready. The bed is made. The dishes are baking. Now for some games! One boy beats on a hollow log for a drum and the others dance. They can keep time well. They sing,

The boys like to hunt in the woods. They go off with bows and arrows and drive away the little monkeys that come to steal corn from the fields.

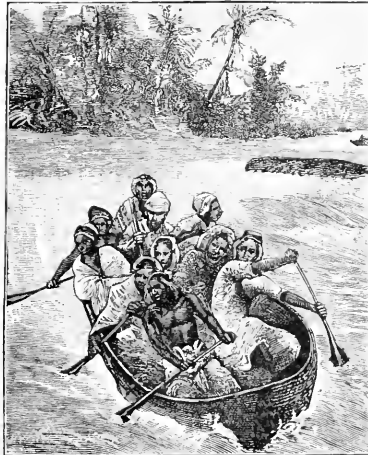
In the woods the boys may see large animals.

There are lions and elephants.

Now and then they see a hippopotamus in the river.

The girls help their mothers. They pound corn between stones

and make meal for porridge. They help make cloth. You could never guess how they make the cloth. They soak long strips of bark in water. Then they pound them till they are soft. When the bark is dry they give it to the father and he makes it into clothes.



Rapids of the Kongo river

Supper is ready. Here are eggs, fresh fish and porridge. Isn't that a good supper for the little black people of the Kongo? Often they have meat of wild animals to eat. When they wish sweet food they eat sugar cane. They have bananas also, and dates.

As a rule, all go to bed at dark, for there are no lamps.

If one of these black boys came to our home, how many new things we could show him! How a horse would scare him, or a sheep, or a pig! He would run from the cars, and his eyes would almost

jump out of his head if he saw a boy riding on a common bicycle.

How strange a snowstorm would look to him, and what fun for him to ride the first time on a sled or bob!

The black girls and boys deep in the Kongo forests have no schools.



Among the black people of Africa



Taking a ride

They never saw a book or a picture. But they have seen many strange things that we have never seen.

These black people are Negroes. Some have been taken away from their homes in Africa and sold as slaves. All the black people in our land are free.

North of the Kongo the Negroes have built large towns. They have many

camels and often cross the desert of Sahara with them. They carry ostrich feathers and tusks of elephants, salt and the gums of trees. These they sell to the white people north of the desert.

South of the Kongo are other black people. They make garden tools and weapons of copper and iron. They have cattle and raise large crops of corn.

Here are also the little black people called *Hottentots*. They live in tents and dress in the skins of animals. The women do all the hard work. They have dishes of baked clay, and spoons and pans of turtle shell.

Many white people live in the far south and north of Africa, as well as in towns along the seacoast. But

middle Africa is the land of the black people.

Helps : — What land is the home of the black people? Where is it? Name one of its large rivers.

Tell how the little black folks make a playhouse. What did they make to put in the hut?

Tell about the games of the little black people. Name some animals they see. Name some plants they see.

What kind of work do the girls do? How is the cloth made? Name some of the kinds of food they have.

What do you have that the savage black boys do not have? What is a slave?

Tell what you can about the black people that live far north of the Kongo valley. Name some products they sell to white people.

What is said about the black people south of the Kongo? Tell what you can about the little *Hottentots*.

In what parts of Africa do white people live?



Negress of Africa



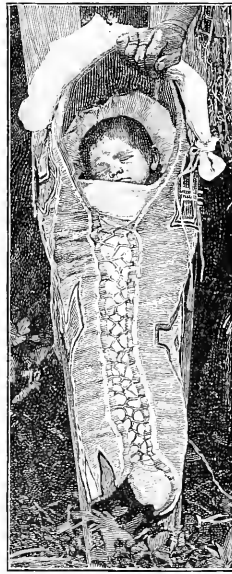
Carrying a Negro baby

63. The Red People

Here is an odd cradle. It is made of a piece of board wrapped in cloth. There are pretty beads on the cloth.

Day after day the cradle swings here, and in it is a baby with black eyes. Its hair is straight and its skin red-brown. It is an Indian baby.

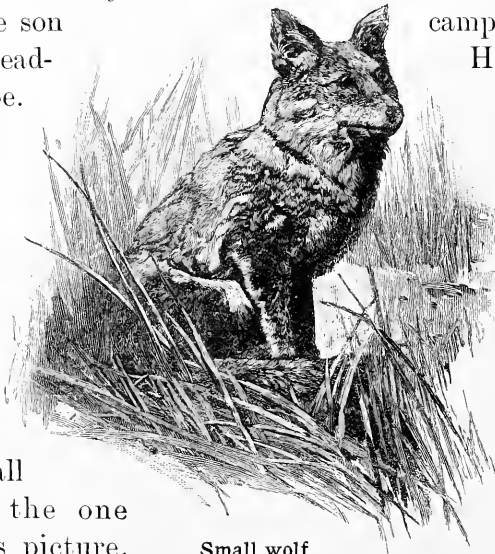
This red baby lives in our own land. Others live in lands far south of ours. When the baby's fingers are strong he will shoot with the bow and arrow.



An Indian baby in its cradle

Here is an Indian boy with his bow. He is the son of a chief or head-man of a tribe.

This red boy lives in a tent. He can run races, wrestle, swim, play ball, hunt and fish. He can also ride the swiftest pony and hunt small wolves like the one shown in this picture.



Small wolf

Indian girls stay at home and work. They cook, and hoe the corn. They help to skin the animals their fathers kill. When moving camp, the girls help take down and put up the tents. They also help to carry the tents and kettles from place to place.

Indian girls find some time for play. They are very fond of dolls. Of course you know what kind of cradles they make. They use little tents for playhouses.

Let us visit an Indian camp in the evening.

Here is a big drum.

It is made out of a hollow log. The drum beats and red men come out to dance. At first they move slowly. Then the drum beats faster. The men keep time. Faster they go, and swifter still,

yelling as if they were fighting. The boys look on and are happy. Some day they will have the same dance. To-night they will hear long stories. Then they will go to their tents and dream of the time when they will be in battles.

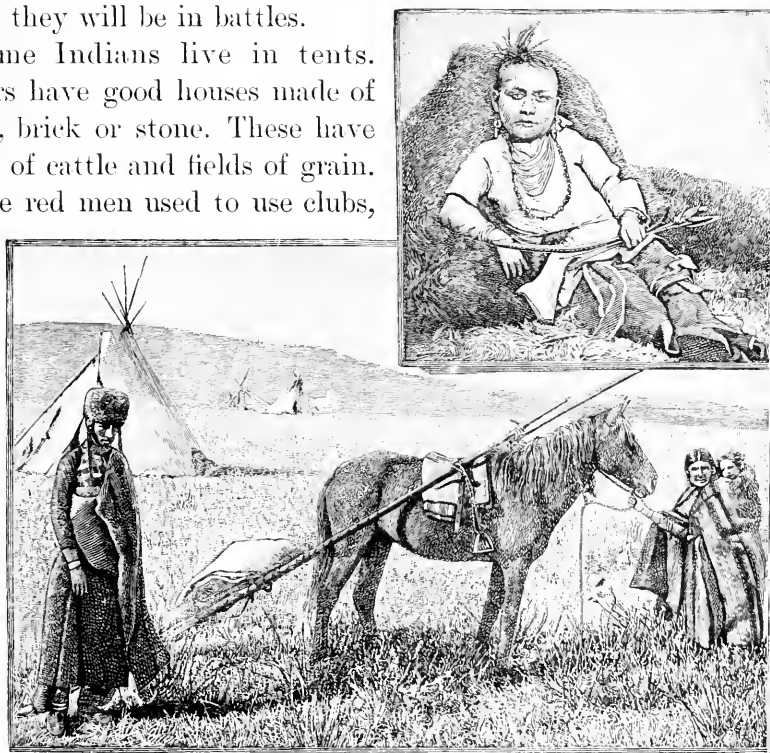
Some Indians live in tents. Others have good houses made of wood, brick or stone. These have herds of cattle and fields of grain.

The red men used to use clubs,

The red men taught the *pale faces* how to make canoes of birch bark and shoes of soft deerskin.

Helps : — How is the red baby's cradle made? How does the baby look?

Find out what a tribe is. Find out



Indians and their tents. Above is an Indian boy, son of a chief

tomahawks, bows and arrows. Now they have rifles. Most of them are good riders. They like to ride ponies without saddles.

Most of the Indians in the world live in lands far south of us.

what a chief is. What games does the red boy learn to play?

Tell about the work of the Indian girls. What kinds of homes do the red men live in? What weapons do they know how to use? What did the red men teach the white men?

64. The Yellow People

To-day we will visit the little yellow people of Japan. Their home is far to the west, across the sea. They live on islands east of Asia. *See map on page 114.*

The girls and boys of Japan have round faces. Their black eyes are slanting. Their skin is brownish yellow.

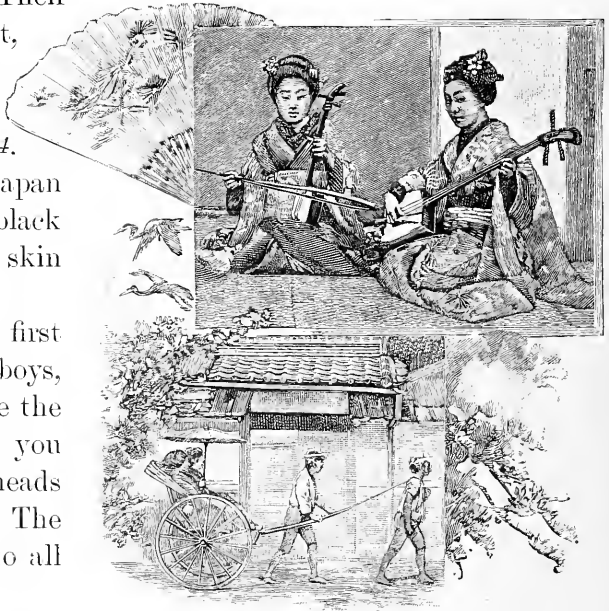
It will puzzle you at first to know which are the boys, for they dress nearly like the girls. Look closely and you will see that the boys' heads are shaved almost bare. The girls' hair is twisted into all sorts of odd shapes.

What large sleeves! Let us look inside one of them. It is used as a pocket, and here are dolls, tops, small kites and other toys tucked into it.

How would you like to wear a pair of their shoes? They are simply wooden soles tied on. The shoes are not worn in the house. They are slipped off at the door.

The children of

Japan have a "doll day." Every girl has a set of dolls. They are



Scenes in Japan

made to look like real live people.

The dolls have tiny wooden pillows, soft mats and tea sets. On this happy day the whole land is alive with dolls.

Then there is "flag day" for the boys. They play with dolls dressed like soldiers. Here are armies of dolls, with flags, guns and swords. At



Japanese houses

this time the boys hear stories about war.

In Japan the streets are lined with toy shops. Men on the street make animals out of rice paste. The girls and boys call out the names as soon as they guess what he is making. They know the monkey, wolf and bear, but do not know the sheep.



How the baby
sister sleeps

Here is a man who rents an oven to the little folks. He gives them batter and they can cook and eat little cakes. The man also sells cakes spread with fish.

Have you found out what the girls have on their backs?

They wish to play but must take care of the babies. The girls tie the babies upon their backs and run out to play.

Let us go into one of the houses. It is made of bamboo and has wide eaves. See the things made of paper! Here are paper doors, paper fans, lan-

terns, kites, hats, cups, napkins and many other things.

There are no chairs in the house. All sit on mats of cloth or straw. There is no table, but the tea and rice will be served on a tray that stands on short legs. In some houses you would see meat, fish, beans and a grain called millet.

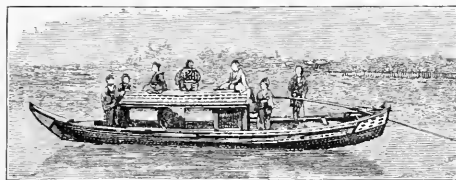
Our little friends eat with chopsticks. These are two slender sticks of wood or ivory. They take the place of a spoon or fork. You would find it hard to get the rice into your mouth with the chopsticks.

Peep into this workshop. Here is a man making pretty vases of clay. Another is carving ivory. Near by is a room in which soft silk is being woven into costly cloth.

Now let us go out in the country. Jump into this cart and a man will run with us like a



Japanese boy
on stilts



Pleasure boat on one of the short rivers
of Japan

pony. Here is bamboo growing. It looks like tall corn. Many of the houses are made of bamboo.



One of the many temples in Japan

We pass wet fields of rice and hills green with tea plants. We stop to watch the girls feeding silkworms. To us this is a land of wonders.

Some of the sports of the girls and boys of Japan are like your own. They spin tops, walk on stilts, fly kites, roll marbles and at times throw snowballs.

The little people of Japan are clean. They bathe in tubs of very hot water just before going to bed. They often have two or three baths a day, to keep cool.

In this land are many temples. Round them are gardens of flowers. Let us follow the girls and boys to one of the temples. They leave their shoes or clogs at the door, go in and clap their hands softly. Then they go out and play among the flowers.

Not far from Japan is the great land of China. Many yellow people live there. We shall read more about them later.

Helps : — Where is Japan ? What is the color of the people there ?

Tell about the boys' hair. What may be carried in the sleeves ? What kind of shoes do the little folks wear ?

Tell about doll day. Tell about flag day. Tell of some of the sights you might see along the streets.



Japanese raincoats

Tell what you might see in a house in Japan. Can you name some things the people of Japan eat and drink ? What are chopsticks ?

Tell what you might see in a workshop. Name some of the plants that grow in Japan. Of what use are silkworms ?

Name some of the sports in Japan. Tell

about the temples.

Name another land of yellow people. Where is China ? See page 114.

65. Children of the Far North

Far away in the North are the Eskimos. They belong to the family of yellow people.

Here is an Eskimo boy. When he was a baby his mother kept him in a bag of feathers. That was his cradle and his bed. Day after day he lay in a smoky hut, till he was old enough

to walk. Then his mother made him clothes out of sealskin. On his jacket she sewed a fur hood to cover his head on very cold days.

The mother has a large hood on the back of her own jacket, and many a cozy nap the baby took in it before he could walk.

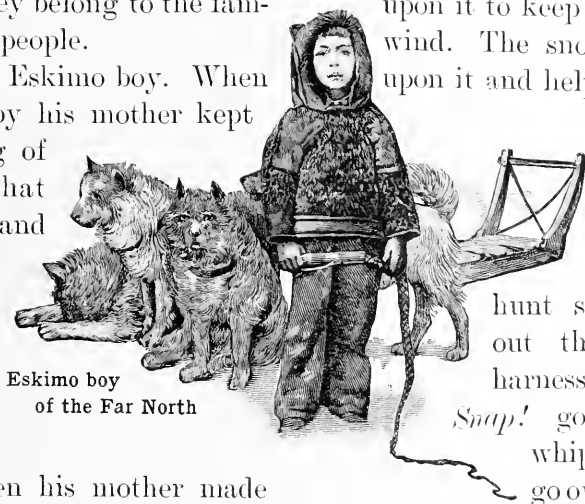
The Eskimo boy lives in a hut. It is built of stones, with earth upon it to keep out the cold wind. The snow also falls upon it and helps to keep it warm.

This boy is old enough to go with his father to hunt seals. Bring out the sled and harness the dogs. *Snap!* goes the long whip. Away they go over the snow.

The father knows where the seals come out of the icy water to lie in the sun. Now they are near the place. The boy is left with the dogs. His father creeps behind a block of ice. Yes, there are the seals!

A rush, a blow, and one seal is held on the end of the sharp spear.

It seems very cruel, but the people need food. No fruit or grain grows in that cold land. There are no cows to milk, but there are sea birds that lay eggs.



Eskimo boy
of the Far North



Eskimo in a kayak, spearing a seal

This boy has no bread and he does not know what the word "sugar" means. But now he can have meat, and the skin of the seal will make a new jacket of soft fur.

It is sport for the Eskimo to chase a whale. He paddles his canoe, or *kayak*, very swiftly and throws a harpoon as straight as an arrow.

The kayak is long and narrow. It is covered with seal-skins. They are sewed over the top of the canoe, making it water-tight. If a kayak upsets, an Eskimo can turn it right side up while in the water.

These poor people are very glad to get a whale. Under its skin lies a thick layer of fat, or *blubber*. This keeps the icy water from chilling the muscles. The Eskimo uses this fat to light and warm his hut.

Let us go back to the hut. Stoop low and creep on your hands and knees. Now we are inside. Can this be the home of

our little friend? How does he breathe in such a smoky place?

Look at the lamp. It is a hollow stone, with moss for a wick. Where did the oil come from? Yes, it came from the blubber of the whale. The lamp smokes but it keeps the hut warm.

Look at the little Eskimo as he takes off his jacket. He wears a shirt of birdskin, and stockings of dogskin.

Now we can see his face. The bright eyes are slanting. The hair is coarse and black. The skin is brownish yellow.

Dinner is ready. The Eskimo boy will have a feast

to-day. His mother has given him a wild duck's egg and a large piece of blubber. His father is eating a slice of raw frozen flesh.

Some days they eat fish and sea fowl. When they kill a white bear, its flesh feeds them for a long time.

Eskimos often move from place to place. They go to find seals



Eskimo and his hut

and fish. Often they hunt far out over the frozen sea. When they are to stay in a place for a short time only, they make huts out of blocks of snow.

White people in ships visit the cold seas of the north for whales and seals. These people sell knives, needles, cloth and other things to the Eskimos.

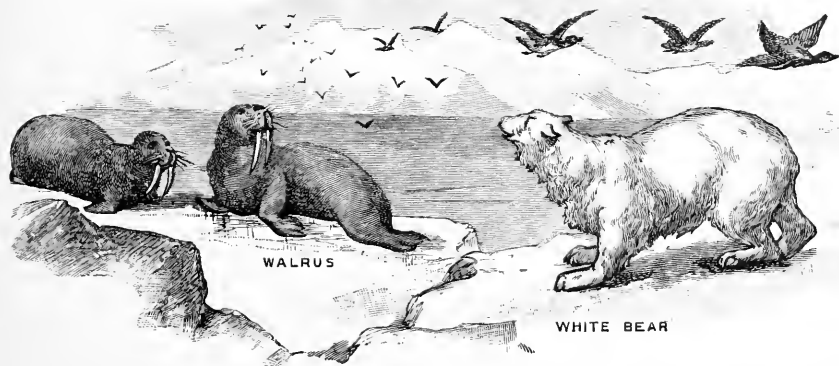
In autumn the days are very short in the Far North. Then the

Helps : — Where do the Eskimos live? Why is the Eskimo baby kept in a bag of feathers? Can you think why the people in the Far North use sealskins for clothing?

Tell how the Eskimo builds his hut. Do you think the Eskimo is cruel when he kills a seal? Do you eat meat?

Tell about the canoes. Why does the Eskimo like to kill a whale? Of what use is blubber to a whale? What use does the Eskimo make of blubber?

Tell about the big lamp in the picture. Tell about the Eskimo's clothing. Why



Scene on the ice in the ocean far north of us

men hunt all the time while it is light. They store up food for the long winter nights that are near at hand.

Some Eskimos live in places where the longest night lasts many weeks. It must be very cold and lonely during the long night. For a long time the sun is not seen even for a minute. In summer there is a day just as long.

do we think he belongs to the yellow race? What other people of this great race have we studied?

What can the Eskimo boy get to eat? When does he live in a snow hut?

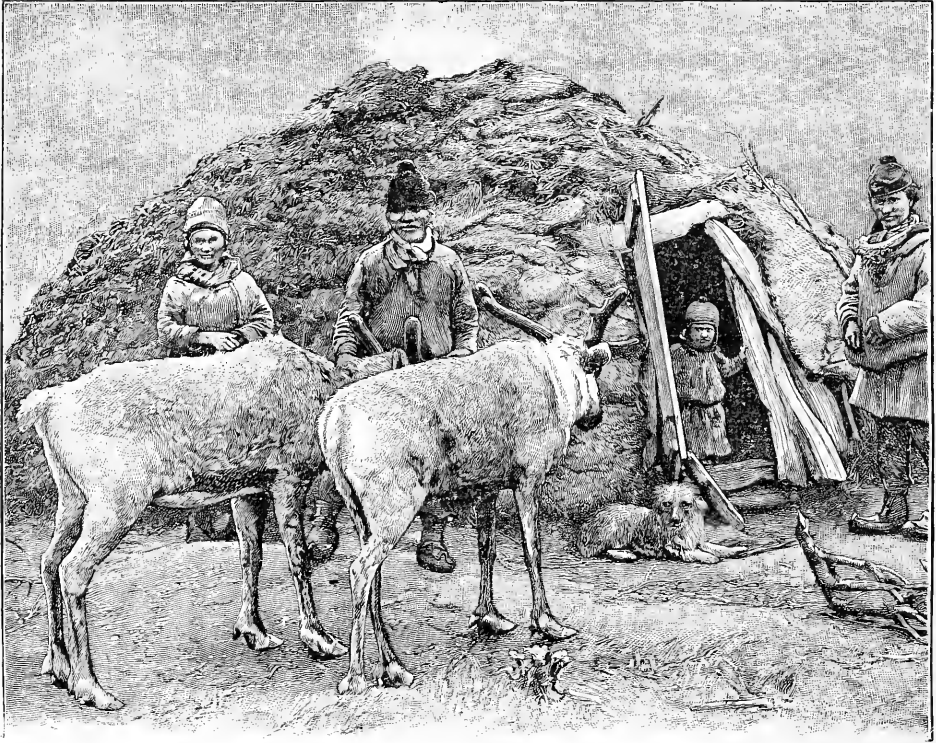
Why do sailors go to the icy sea far north of us? What may an Eskimo buy from them? What can an Eskimo pay for such things?

Tell about the nights and days in the Far North. Would you like to live there?

66. Home of the Lapps

Is n't this a warm hut? See the thick sods upon it. The rain cannot leak through this roof. When the door is shut, cold air cannot get in.

Come out, little boy, where we can see you. What large round eyes you have, and what a tiny flat nose! Your face tells us you are one of the little yellow people.



Hut of a Lapland family, with two reindeer

How dark the hut is! There is not a single window. A hole in the top of the roof lets the smoke out.

Which has the warmest coat, the deer, the dog or the little boy in the door? Do you think this is a warm land or a cold one?

Let us look into the hut. What is this bundle that hangs from the roof? It is a hammock made of the warm skin of a deer. In it swings a pretty baby girl with eyes as bright and cheeks as soft as your own.

Would you like to know where these people live?

Their home is in the north of Europe, near the shore of the cold ocean. They are called *Lapps*. They live in *Lapland* (page 113).

Ah! here comes a snow-storm. Now we know why the Lapps wear high boots. Let us hurry into the hut.

See the long strips of smoked meat. Here are dishes of sweet milk also, and new cheese. Do you wonder that the Lapps are kind to the deer? Where do you think all this food came from?

At night the children sleep side by side between warm deerskins.

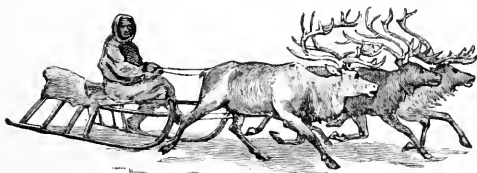
These are reindeer. In summer they bite off tender shoots of bushes and low trees. In winter they paw away the snow to find *moss*.

It has stopped snowing. Now for a ride! Harness a deer to a sled and away we will fly over the snow. How fast we go! The master says the deer can go a hundred miles in one day.

The Lapps do not see snow all the time. As early as May fields are dotted with flowers, and birds sing sweetly. Later the bushes are loaded with berries.

Now the ice melts on the lakes and rivers. The hungry trout and salmon bite

quickly at the hooks. The Lapps bring out their tents and go from place to place, looking for pastures for the deer.



Reindeer and sled



A Lapp

Helps: — Where do the Lapps live? What does the picture show about their hut? How does the picture show that this is a cold land?

How does the little boy look? Tell what is in the hut. Of what use are reindeer? What do they feed on?

What do the Lapp children see in the spring? What can they catch in the lakes and rivers? Why do the Lapps wander about in summer?

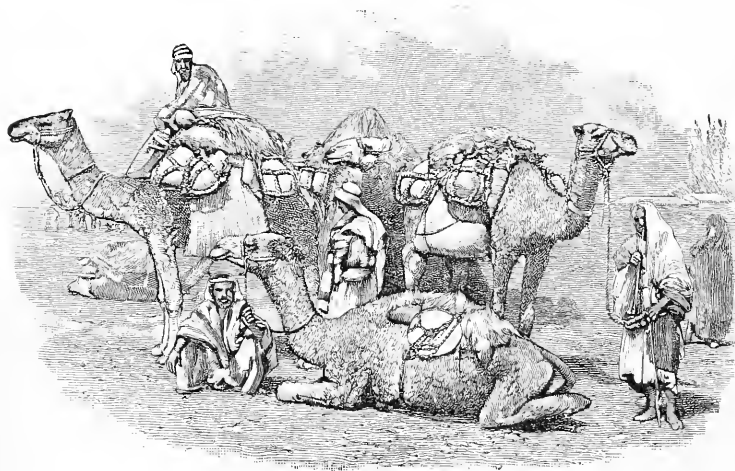
Can you tell some of the sights the Kongo children see, that the little Lapps never see?

What would the boys and girls of Japan miss if they went to Lapland to live?

Name some of the kinds of food Lapps eat, that Eskimos do not have.

67. Children of the Desert

We start to-day for a land that is far away. It is nearly halfway round the earth from us. First we will go to the great port of New York. Then for two weeks we will sail to the east on the ocean and on the long sea north of Africa.



Arabs and their camels resting in the desert

At the east end of this sea camels are waiting for us. They kneel for us to get on their backs. Now we are off on our trip over the desert.

How dry and sandy the land is. How hot the air! The first night we camp near a well of cool water. In the morning we are off again. Before noon we reach another well. Here we rest till the sun is low in the sky. When the air is cooler we move on.

Days pass and we are still on the hot sand. Now the wells are far apart. We must carry water in bags made of camel's skin.

It is noon. We halt for the day. How the sun beats down!

See the dust whirling toward us! What is going to happen?

The camels are burying their noses in the sand.

It is a hot whirlwind. We must be quick, or it will reach us before we are ready for it. Put a piece of cloth on the sand and

press your face hard down into it. Breathe the air from the sand.

Now the wind is here. We are stifling! It feels like hot coals on our bodies. The sand almost buries us. Five minutes pass. They seem like hours. The camels are raising their heads. The storm is over. This is the *simoon*, or stifling wind of the desert.

As we travel over the hot sand clouds of locusts fly about us.

Bees and wasps swarm upon the rocks that jut out of the sand. Scorpions with poison stings creep over the dry surface.

There is not much plant life. The camels find small tufts of grass and a few thistles.

Now our road leads over higher land. We see tents under date palms. Far ahead low mountains rise on the plain. Tomorrow our journey will end.

Here we are at length in a land of flowers. It looks like an island garden in a sea of drifting sand. Here

are date palms and fields of grain. This is the land of the Arabs. It is in the southwest corner of Asia. *See map on page 114.*

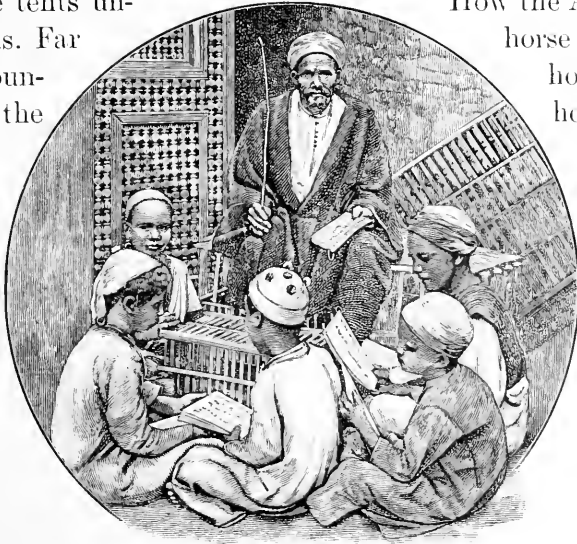
The Arab boys are quite dark but they belong to the white family or race.

Would you like to go to school with these Arab boys? They sit

on the floor to study. They are reading from a book that tells them not to press wine from grapes. In all this land no wine is made, but grapes are eaten.

School is over for the day, and our little friends will show us their home. First we must see the horses.

How the Arab loves his horse! He oils its hoofs so that the hot sand will not crack them. He gives it green grass and pure water. Often he feeds it on sweet dates and barley. He puts no bit between its teeth but guides with his knees.



Arab school

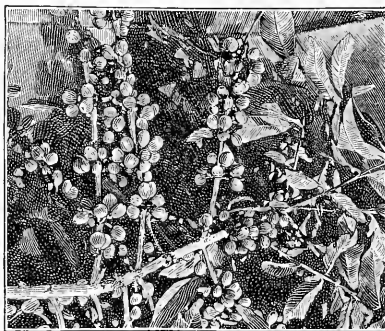
Now we will look at the camels. To the Arabs they are more useful than horses.

One kind of camel is used for speed. Another carries heavy loads. The former will run a hundred miles a day. In the cool part of the year it can travel eight days without drinking.

For supper we drink camel's milk and eat its boiled flesh. We have fresh butter and cheese, but these are made of goat's milk.

The hair of the camel is soft and fine. It is used in making cloth. Some of the Arab tents are made of this kind of cloth.

We need not stop to look at the goats, the sheep and the cattle. We can see many like them in our own land, when we go home.



A coffee branch

dates and at the table we have sweet cakes made of the same kind of fruit. This is a useful fruit.

Coffee is the chief drink of the Arabs. The coffee berries grow on the hilly lands not far from the sea. They grow also in other lands, far from the home of the Arabs.

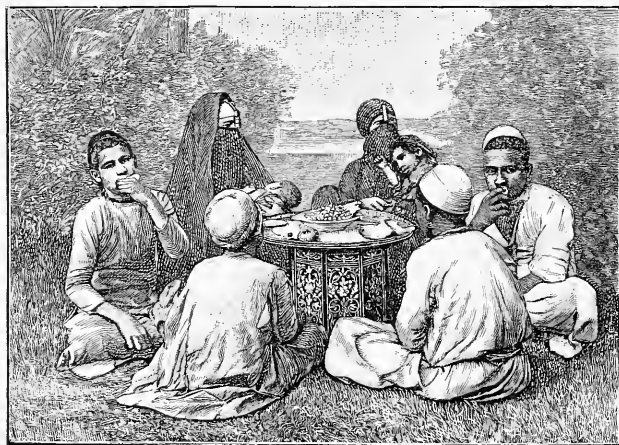
Some Arabs live in good houses of stone, bricks or wood. They have towns and cities. The people are kind and polite. We are sorry to leave the dusky white boys, but we must go back to the dearest land of all.

Helps : — Tell how we reach the land of the Arabs. Why are wells made in the desert ?

Tell about the simoon. Name some of the things seen in the desert. Where is the land of the Arabs ?

Tell about the Arab school. What is said about horses ? Tell what you can about camels.

Tell what you can about the food of the Arabs. What is their chief drink ? Do all Arabs live in tents ?



Arab family of southwest Asia

Let us go into the gardens. Here are bright flowers, and date trees wave in the valleys. We eat fresh

68. The Brown People

This girl has brown skin. Her hair is long and straight. Her eyes



slant a little. This is the brother of the girl. He is strong, and can run fast and wrestle.

These little people live on the island of Java. It is southeast of Asia. *See map on page 114.*

Java is close by the equator, in the hot part of the earth. Heavy

rain falls there. It is a land of fruit and flowers. It is so pretty that people call it the "Pearl of the East." Here is the home of our brown friends. It is a hut in a grove and is made of bamboo.

The brown girl keeps the hut very neat. She stuffs pillows with soft white down that grows on a tree near by. She weaves dried grass into mats for beds. Then she covers them with pretty cloth.



A brown girl and boy of Java

Her brother pounds the husks off the rice they will have for breakfast. Then he gathers coconuts and a bunch of bananas.

This fruit is eaten raw, but the mother cooks the rice till it is soft and white. The only table is a mat, and all sit upon the ground while eating.

Now they are ready for the day's work. The coffee berries are turning dark red and it is time to pick them. This will be the work of the mother

and the girl. The father and the boy must let water in over the rice field.

A coffee tree is a pretty sight. It has gray bark, green leaves and

white waxy blossoms. The seed pods of the blossoms grow to clusters of berries that look like rosy cherries.

The berries are picked and spread out to dry. Then the

pulp is pounded or rolled off, and out come the coffee seeds ready for market.

By ten o'clock the sun is so hot that work in the fields is stopped. Now the brown people sit in the shade of palm trees and make baskets. When thirsty they cut open a coconut and drink the cool water or "milk" that is inside.

The father says that snares must be set, for great bats have been

nibbling in the corn. Have you ever seen the little bats that look like mice with wings?

Some of the bats of Java are very large and are called *flying foxes*. During the day they hang in trees, but in the evening they fly about for food. Snares and nets will be set for them.

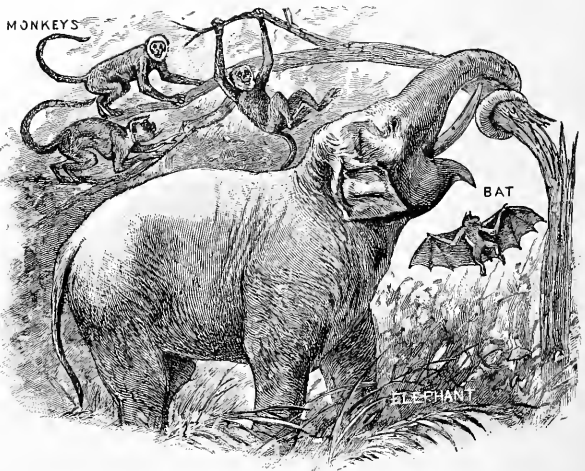
By four o'clock the air is cooler. The father goes back to the rice field. The little girl helps her



Girl of Java



A brown man



mother spin cotton into yarn. Some day they will weave the yarn into cloth and make new clothes.

But what is the brown boy doing? He is off for a cave where swallows build their nests. They plaster them upon the rocks. A few of these nests will make soup for supper. Many of the swallows' nests are sold to people of China.

These brown people are called *Malays*. Most of them live on the islands southeast of Asia. In some places they have built large cities, but some of the brown people are fierce savages.

The white man rules over most of the brown people. The Filipinos are brown. Their islands are under the care of our country. They built the large city of Manila.

Helps: — What do the pictures show about the brown people?

Where is Java? Why do so many fruits and flowers grow there? Tell all you can about the work of the little

brown girl. Tell about the work of the brown boy. Name some products of Java. What do you know about coffee?

What is said about bats? What is said about the nests of swallows?

What other name is given to the brown people? Are they all alike?

Find out all you can about the Filipinos. What large city have they built?



Filipino brown girl

69. In the Lowlands

To-day we will visit Holland,¹ the land of canals. It is part of a low plain. Across it the river Rhine flows to the sea.

Holland is in Europe. It is far to the east, over the ocean. The people are called *Dutch*.

This land has many canals and ditches. Its wide meadows look as level as a floor. No fences are needed where there are so many canals.

Boats with white sails seem to skim over the meadows, but of course they are sailing on the canals. Girls often handle boats better than the boys do.

¹ Holland is also called *The Netherlands*, meaning "the lowlands." See page 113.

Some of the children spend all their lives on boats. They go from place to place along the canals, where their fathers find work. When old enough the boys have boats of their own on the canals.

Let us take a trip on one of the house boats. See the long rows of windmills! They are pumping water from the low fields into ditches. The land is so low the water cannot run off. When the corn is ripe the windmills will help to grind it into meal.

What are these men doing? They are cutting strips of soft earth and putting them where they will dry. The strips are filled with roots and grass. This is peat. It will be sold for fuel.

Here is a band of haymakers. See the girls working in the field. Yes, the mothers and sisters often make hay, dig potatoes, sow grain, hoe corn and do other kinds of work. They even help to draw boats along the canals.

What queer shoes the horses wear in the fields! They are small

boards tied under the hoofs. Can you think what they are for?

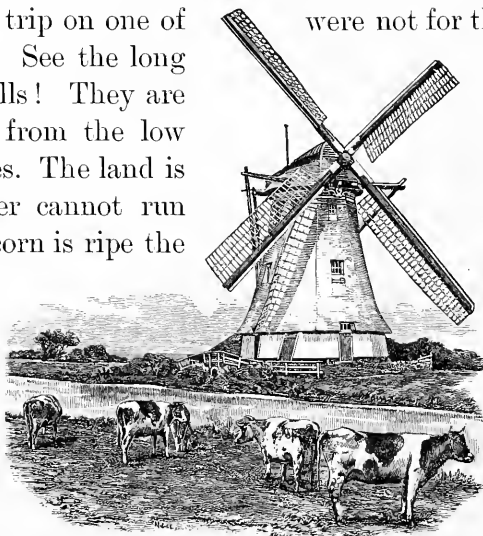
A large part of this low land is soft and boggy. It seems like a wet sponge. The ground trembles under the children at play. If it

were not for the wide shoes, the horses would sink deep into the soil.

What a land this is for bare-foot girls and boys! They can splash in the puddles, wade in the ditches, sail boats on the long canals and catch fish everywhere.

You should see the Dutch children in winter. Then the canals are frozen. How swiftly they skim over the ice! The canals are alive with skaters.

Poor children use wooden skates but they have fun. People go to market on skates. Here is a girl going to sell a basket of eggs. She will bring back a small red cheese and a loaf of bread about two feet long.



Windmill by a canal in Holland

Would you like to wear wooden shoes? Of course you would take them off at the door and not wear them in the house.

Here we are at a bridge. Our house boat cannot pass till the bridge is raised. The men who move the bridge swing out to us a little wooden shoe on the end of a pole and line, and we drop into it a small piece of money to pay them for their work.

Now we are near a city. It looks like a forest of masts, trees and steeples. Boats, boats sail everywhere! The houses are very neat. Perhaps the kitchen is the front room, but what of it?

Would you like to live in Holland?

Helps: — Where is Holland? What are its people called? What river flows across this low land?

Why are no fences needed? In low, level land would the water in canals be swift or slow?

Why are so many house boats used? Of what use are the windmills? What do the poor Dutch use for fuel?

What kind of work do the women help to do? Name some of the farm products of Holland.

What is said about shoes for horses?

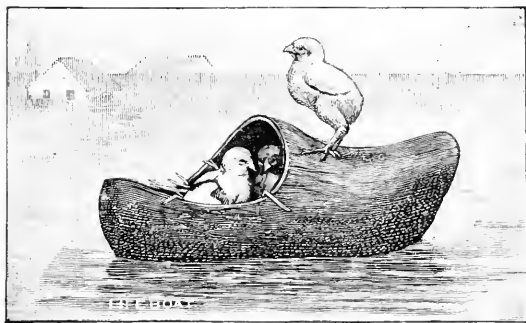
Tell about the canals in winter. Have you read "Hans Brinker"?

What is said about the bridge over the canal?

What new things would an Eskimo boy see if he were to visit Holland? What would the Dutch boy miss if he went to live in the icy land of the Eskimo?

What would the Lapp boy miss if he went to live in Holland? Could he wear the same kind of clothing?

Would you rather live in Holland or in the land of the Arabs? Tell why.



When a dike breaks in Holland

70. In the Highlands

Let us leave the land of canals and sail far up the river Rhine. Hans, a Dutch boy, will go with us to visit the Swiss boys in the high Alps. *See map on page 113.*

How strange the place looks to Hans! He has always lived on low land by the sea. Now for the first time he sees high mountains. Snow lies upon them all the year.

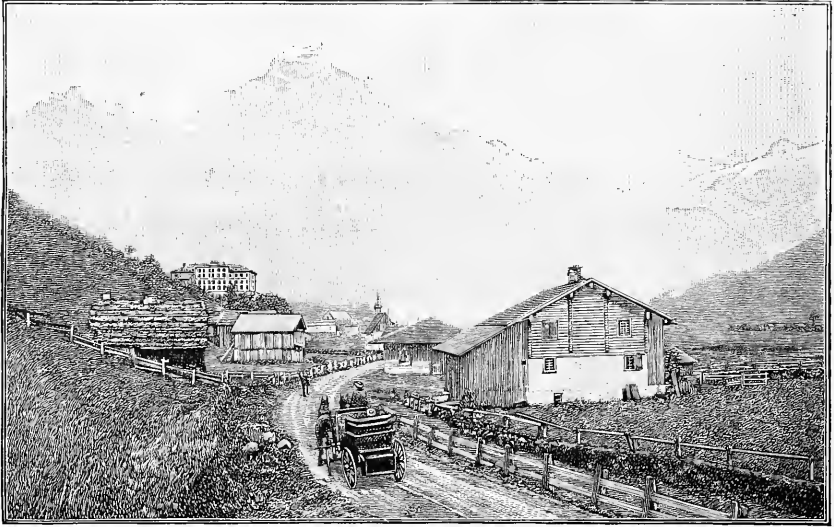
Here we are in a pretty village, close by the snowy peaks.

A Swiss boy comes down the road to meet us.

What do you think Hans misses most? Yes, the quiet canals. Here he sees no white sails skimming about. The Swiss streams rush and roar over steep rocky beds.

Carts are loaded with food and bedding for them. The boys are happy. They are going on a long trip.

When all are ready they set out with long lines of cattle and sheep. The flocks graze for a few days at



The Swiss boy comes running to meet Hans

Hans feels of the water and finds it icy cold. He cannot go wading here. The water comes from a glacier, or river of ice, that slowly creeps down the slope.

The Swiss village is all alive to-day. Spring has come. The flocks must be driven to the high grassy valleys in the mountains.

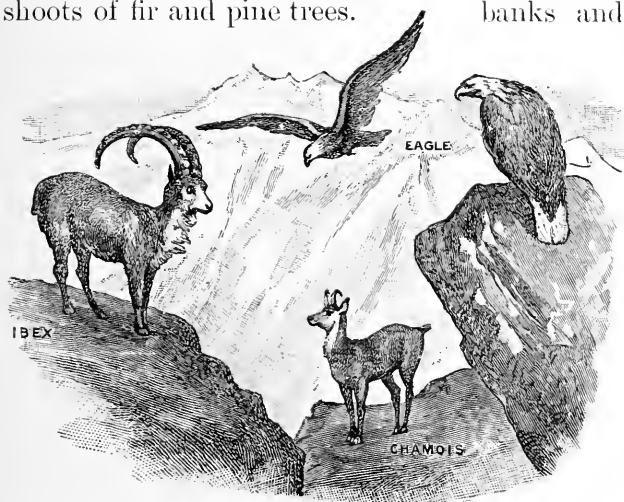
The men with the flocks will be away from home all summer.

the foot of the range. As the snow melts they climb higher. In the high valleys they find the grass green and tender. Here they will feed till the snow comes again.

The boys help to tend the flocks. Then they play by the swift streams or gather wild flowers. Once in a while they see a *chamois*, as it leaps from rock to rock far above them.

The chamois looks partly like a deer and partly like a goat. It is very shy and has keen scent and sight. It is hard to shoot.

In winter it feeds on the tender shoots of fir and pine trees.



Scene in the high Alps

In summer it is found close to the snow cap on the highest peaks.

The chamois is noted for its long leaps over chasms. It is often seen flying in the light snow.

At times the boys lie awake and listen to the ice river. It cracks as it moves slowly past the cabin.

One day the boys see a great mass of ice and snow slide into the valley. At first it moves slowly, but soon it crashes along. Large trees snap and break. Great

rocks whirl down the slope. The earth trembles. The flying mass gives out a loud roar.

When it is over, Hans tells a story about the sea breaking its banks and flooding his father's field. The Swiss boy tells about the snow that slid down last winter and buried part of his village.

Weeks pass. At length the snow falls a little lower on the slopes. The snow cap creeps down into the high valleys where the flocks are. They must start for home or they may be caught in a storm.

It is the middle of September. All the village is dressed for a holiday. To-day the men come with the flocks from the mountains. The girls and boys march out with bells and flags to meet them.

The day is given to sports and games. The young men wrestle, run races and shoot. In the evening bonfires are lighted. While the young people are dancing, the snow begins to fall. Winter is at hand.

What have the girls and boys been doing all summer? They have helped their mothers mow grass, take care of the gardens and make straw hats. They have milked cows and goats and have made butter and cheese. You know how butter and

snowy peaks, the long glaciers, the high falls and pretty lakes. Young Swiss men act as guides. Now the time has come for Hans to go back to his home by the canals. He will stop for a few days in the Swiss city of Geneva, to see the workshops. Here he will watch the people spin silk and weave wool into cloth. He will also see them make watches and music boxes.

Helps : — Where do the Swiss people live? What high mountains do they see?

Why are the Swiss streams cold? Why are they swift?

Why do the flocks go to the high valleys? Why do they not go to the top of the mountains? Tell about the chamois. Tell about the snowslide.

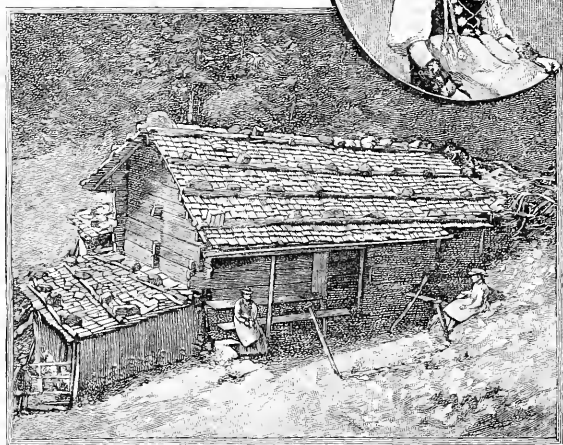
When do the flocks go down to the village? Tell about the holiday.

What kinds of work have the girls and boys in the village been doing? What kinds of food do the Swiss people eat?

Why do many people visit the Alps? Name a Swiss city. What do the people of Geneva make?

What would the Swiss boy miss if he went to live with the Arabs?

Now we have seen homes in many lands. If you could not live in your own land, which would you choose?

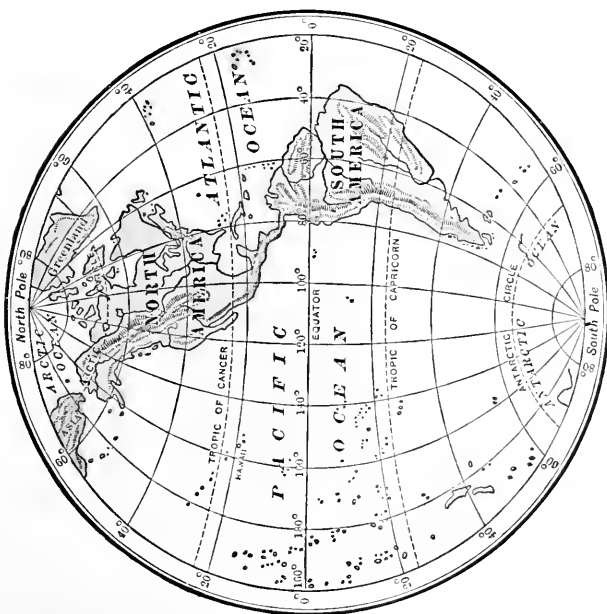


A Swiss girl and her cabin in the Alps

cheese are made. In this Swiss village the swift streams are made to turn the churns.

Milk and cheese are used for food. Very little meat is eaten. Potatoes are raised, and these often take the place of bread. The orchards have apples and pears.

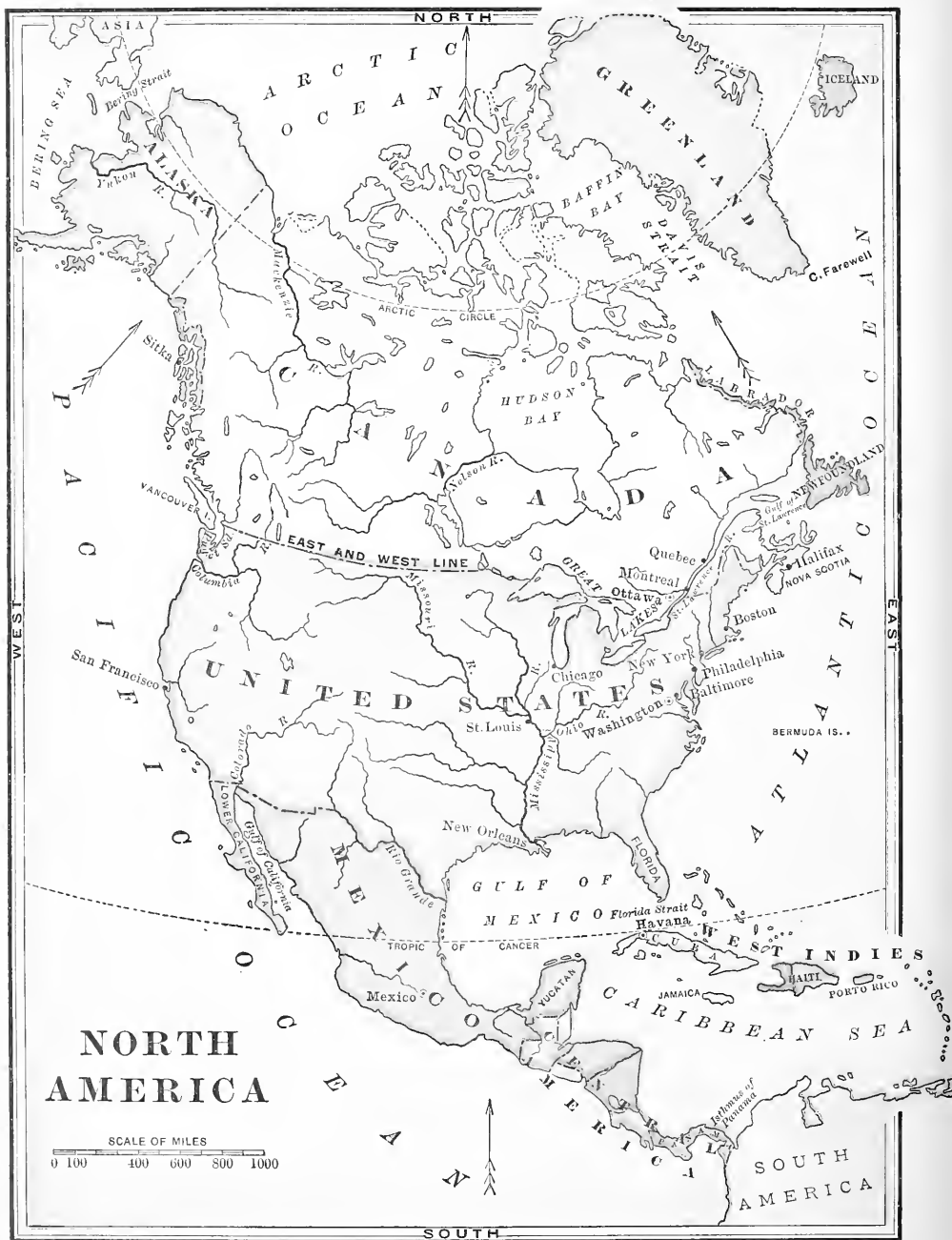
Every year many people visit the Alps. They like to see the

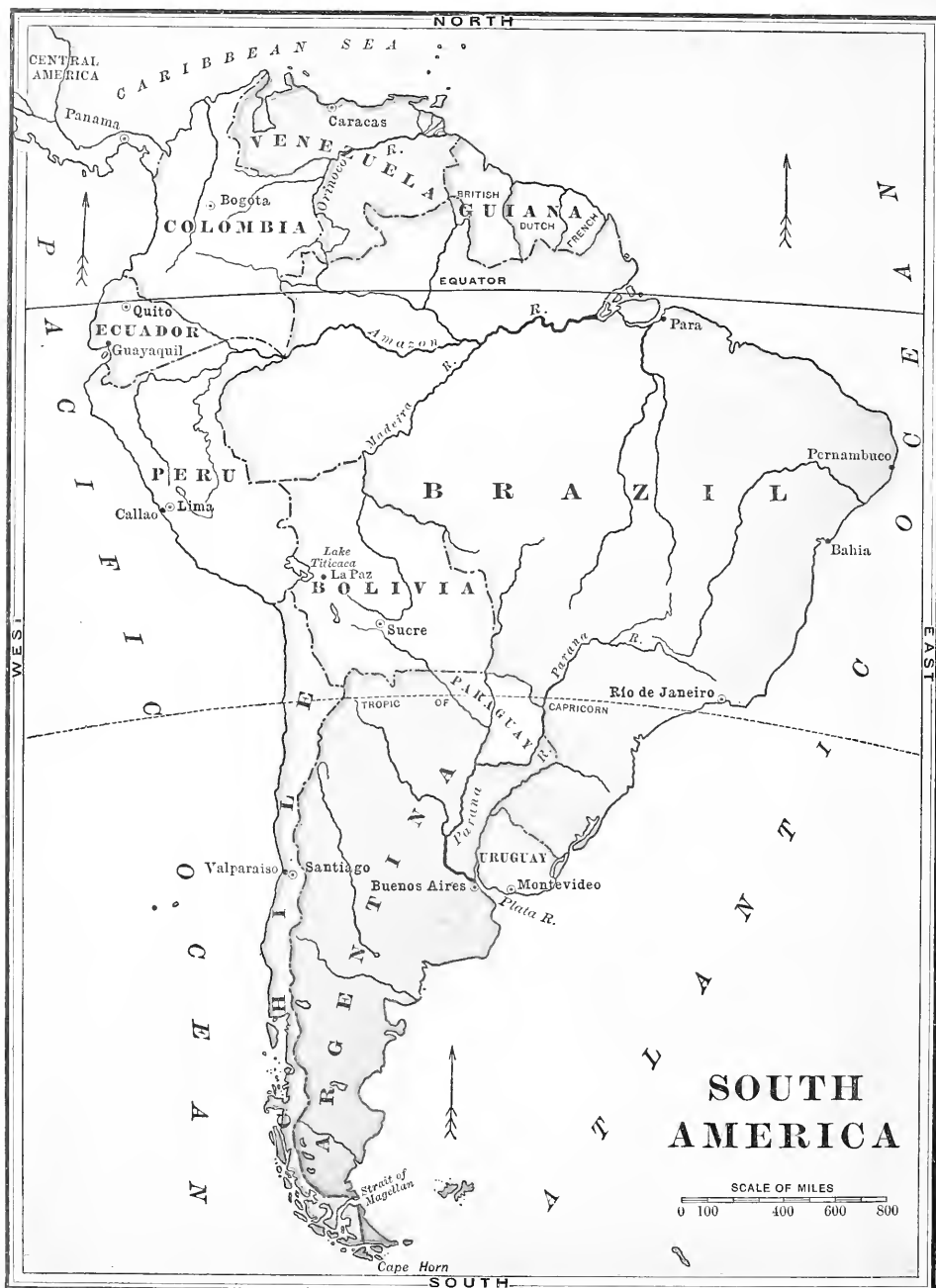


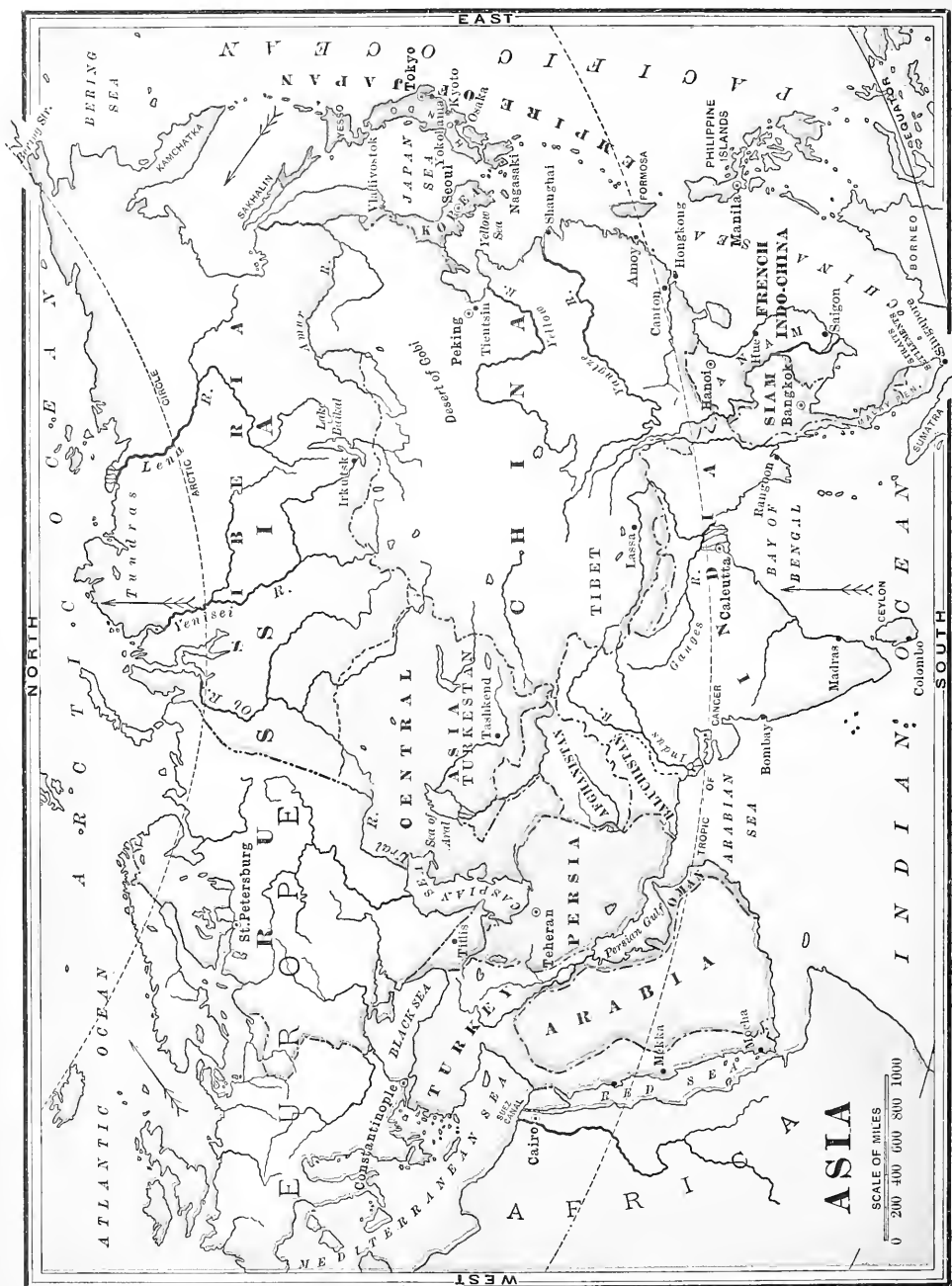
Western hemisphere

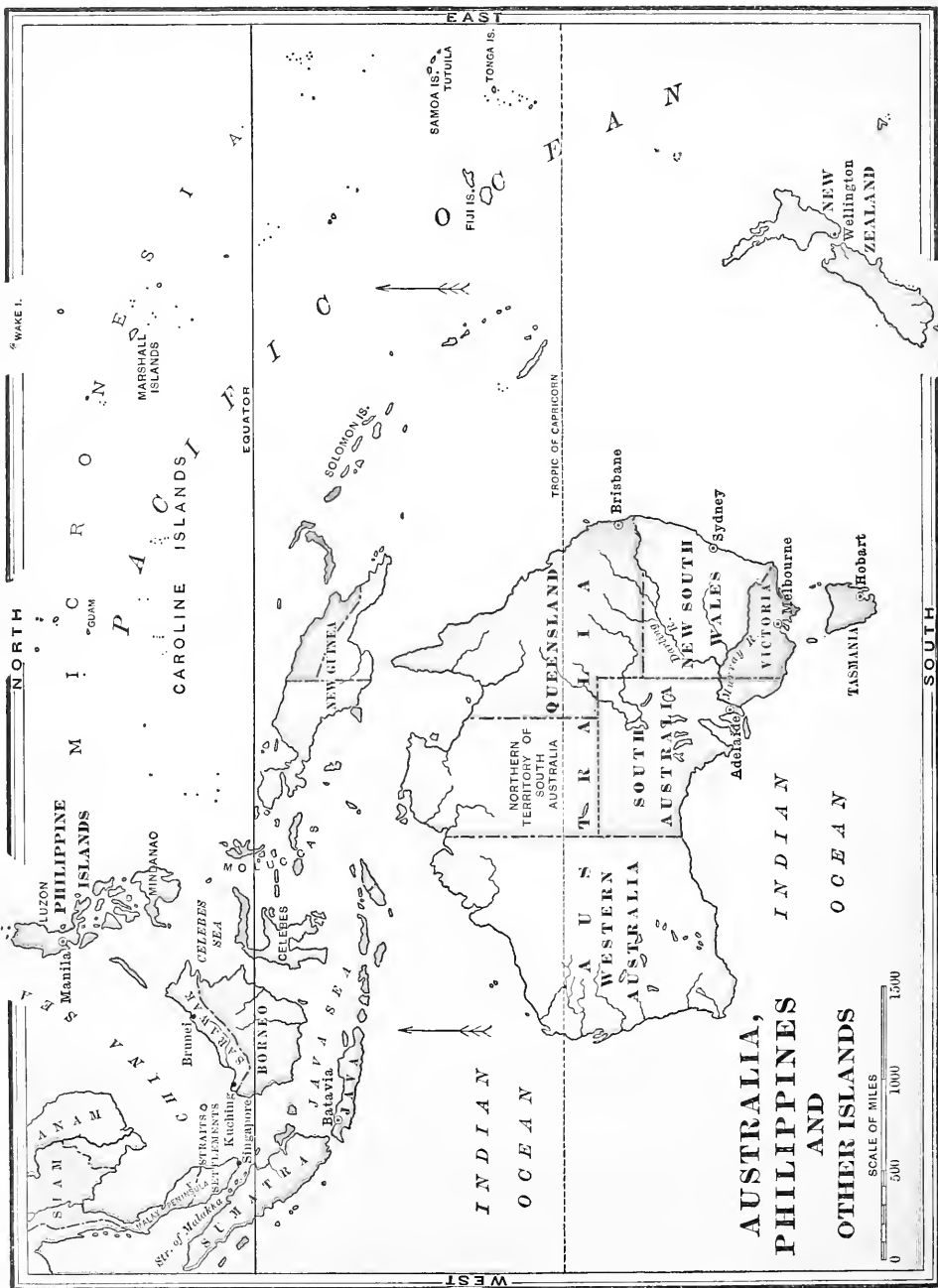


Eastern hemisphere











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